Guides for

BUSINESS ANALYSIS *and* PROFIT EVALUATION

UNITED STATES DEPARTMENT OF COMMERCE

Business and Defense Services Administration

Guides for BUSINESS ANALYSIS *and* PROFIT EVALUATION

U.S. DEPARTMENT OF COMMERCE
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OFFICE OF DISTRIBUTION
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1959

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington 25, D.C. - Price 30 cents

FOREWORD

The ability to analyze business operations through examination of accounting records is one of the requisites of good business management. For the proprietor or business manager, it is essential to the successful operation of his enterprise. For the banker, lawyer, accountant, credit man, investment consultant, or appraiser, it provides a useful tool in performing efficient services to other businesses.

Although studies of business failures give conclusive evidence of the importance of financial management, many business analysts and operators fail to make effective use of much valuable and readily available information in this field. It is the purpose of this study to point out the types of information available from both Government and private sources and show how such data can be used as a basis for analysis that will provide new insight into business operations and problems.

The study is directed primarily to those engaged in or servicing the distributive trades—retail, wholesale, and service—but much of the information is applicable to industrial concerns as well. It is designed as a basic reference for those who must analyze business operations in managing a business, large or small, in serving clients, in appraising for tax purposes, in evaluating credit risks, in studying investment opportunities, and in evaluating trends in business costs and profits.

Major emphasis is given to the use of operating and financial ratios, but other management tools are also described. The use of statistics from the quinquennial Census of Business and the annual Internal Revenue Service operational summaries taken from tax returns is given special treatment, including actual examples of analyses developed from these sources.

The study was prepared by J. Ernest Bowker under the direction of I. Q. Lord, Chief, Distribution Research Division, Office of Distribution.

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CHAPTER 1

INTRODUCTION TO RATIO ANALYSIS

The problem of what records to maintain and how to derive the greatest benefit from them is, of course, faced by every business firm. Each must keep at least some records, if for no other reason than to comply with income tax and other reporting requirements. But the question of utilizing the information contained in accounting records to best advantage is an area of business intelligence and management that is generally neglected.

It is probably correct to say that most businesses maintain sufficient records to enable the preparation of a balance sheet and a profit-and-loss statement. These statements, if correctly prepared, indicate the overall condition of the business at a given date and its earning experience. They show values of things owned and owed, the various classifications of assets and liabilities, the owner's equity in the business, his earnings for various accounting periods, the disposition of expenses, sales trends, and other related facts.

It is also probably true that this is the extent of the effort made by a great many businesses to analyze the effectiveness of their operations. However, a thorough analysis does not stop with the figures on the financial statements, for what appears to be a healthy and prosperous business on the basis of a casual check of these reports can in reality be a firm headed for serious financial difficulties.

A simple example of such a situation is that of a firm reporting a high volume of sales, a large amount of which will prove uncollectible. The impending trouble is not indicated in the profit-and-loss statement, where sales are included as income. Nor does the balance sheet, where such transactions increase the accounts receivable asset, outwardly indicate any approaching danger. However, if analysis proceeds to computation of the number of days sales represented by the receivables, and comparison of the resultant figure with the terms of credit, the situation becomes clarified. The average collection period is shown as dangerously exceeding the terms of sale, and impending trouble is then readily apparent.

It remains, therefore, for financial analyses to continue from, not end with, the presentation of financial statements. One type of analysis involves a determination of relationships between various items on

the financial statements and the examination of these relationships in terms of changes or trends over a period of years as well as comparisons with established trade standards. These relationships, which make the statements more understandable and make comparisons with operations of other firms possible, are commonly referred to as operating and financial ratios.

Development of Ratio Analysis

The use of ratio analysis in the examination of financial statements is a comparatively new development. Actually, the practice of public accounting itself did not become general until the latter part of the 19th century, and the first legal recognition of accountancy in this country did not come until 1896, when New York State established a procedure for the granting of certificates of qualification.

The first real impetus to the development of ratio analysis came out of the credit relationships of merchants with each other and with financial institutions. Creditors wanted some evidence of the ability of the borrower to meet his obligations. This led to balance-sheet analysis, which became fairly common soon after the turn of the century. At first the analysis consisted simply of a comparison of successive balance sheets, noting increases and decreases in the various items from period to period. From there it proceeded to the determination of some simple though rather poorly understood relationships, and this was the beginning of ratio analysis.

The passage of the Federal income tax law in 1913 had a dramatic effect upon accounting practices in the United States. It made necessary the development of practices that could be uniformly accepted, and it had an important influence in shifting emphasis from the balance sheet to the profit-and-loss statement. Regulations were prepared by the U.S. Treasury Department defining proper methods of income determination. Businesses were required to prepare balance sheets and income statements that were at least adequate for income tax purposes.

Advances in accounting practice were rapid thereafter, and interest increased in the development of operating averages from which business analysts might benefit. In 1916, the Internal Revenue Service began publishing annual reports based on the income tax returns filed with the Treasury Department. These reports, known as *Statistics of Income*, contain valuable tabular presentations of aggregate income statements and aggregate balance sheets.

Two private organizations arose to fill the need for analytical guides and standards in the extension of credit. Robert Morris Associates, The National Association of Bank Loan Officers and Credit Men, established in 1914, began experimenting in the development

of ratios and in 1923 began publishing annual composites of industrial and trade financial statements expressed in percentages. Dun & Bradstreet also played an important role in the development and understanding of ratios and has published important financial data for over 25 years.[1]

Trade associations have been instrumental in developing cost data for comparative purposes for their members. Actually, a number of associations had developed uniform accounting systems and standard cost percentages before 1920. A period of legal uncertainty ended in 1925 when the Supreme Court ruled that collection and dissemination of cost data by trade associations are legal where no attempt is made to reach agreements in respect to prices or restraint of trade. Since then numerous associations have initiated cost studies conducted on an annual or other periodic basis.

As can be seen from the bibliography which is part of this publication, universities, trade periodicals, and commercial organizations also make important contributions by way of primary research in the field of distribution costs. The listing includes publications by 74 trade associations, 22 publishers, 9 commercial organizations, and 4 universities. (Actually there is much more work being done by colleges and universities than this count would indicate. Many of the association studies are made in cooperation with schools, but are listed under the association from which they are available.)

Value of Ratio Analysis

The business proprietor invests time and resources in his enterprise and must obtain adequate compensation in return. It is necessary that he determine what an adequate return for his capital and effort is, and whether or not his venture is meeting his expectations. This determination involves a rather thorough analysis of his operation, and a good understanding of the financial considerations involved.

Are profits adequate? Can they be increased? Is the labor force efficient? Should gross margin be larger or smaller? Is merchandise turnover satisfactory? How much in relation to sales should be paid for rent? How are other businesses of a similar size and type in this area doing? These and countless other questions are asked by the proprietor. Financial and operating ratios assist him in providing the answers.

Ratio analysis is used not only as a tool in the financial management of a firm's own operation, but is frequently employed by firms which must examine and appraise the financial position of others. The bank

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[1] Roy A. Foulke, vice president of Dun & Bradstreet, Inc., for over 25 years has compiled and published financial rates for many industries and trades. He is author of the books "Practical Financial Statement Analysis," "The Genesis of the 14 Important Ratios," and "Behind the Scenes of Business," and of numerous related booklets and articles.

must make a careful analysis before risking its money through loans to business firms. Accountants must have complete knowledge of the subject if their service to clients is to be complete. Ratio analysis is necessary to investment consultants, finance companies, and tax appraisers. It is frequently employed by lawyers, trade associations, and other groups who in serving their respective clients or members find it necessary to examine operating experience or earning capacity of business firms.

The decisions that call for the use of financial and operating ratios must be made, whether or not the proprietor or bsuinessman uses ratio analysis as a tool. Some rely on their own "business sense," often unaware of the existence of these convenient tools that might save them many a pitfall and possibly their business.

Limitations of Ratio Analysis

The use of any statistical data requires a knowledge of their limitations. Operating and financial ratios are determined from accounting records, and these records, by their very nature, impose limitations on the use to which they may be put.

Accounting statements should not be thought of as precise or finely accurate documents. Completely accurate statements can actually be drawn only on the dissolution of a business. Periodic statements involve a matching of estimated costs and revenues during the period involved, and the methods employed in making these estimates can vary among business firms. The depreciation of fixed assets and the valuation of inventories are two important examples of estimates determined by any of a number of acceptable methods. The profit-and-loss statement and the balance sheet are both affected by the methods used.

If financial statements are not precise, they are, nonetheless, entirely adequate to provide management with the information necessary to the intelligent conduct of its business affairs. They adequately indicate overall profitability, business conditions, relative importance of expense items, and significant trends in the operation of the business, and they can be used in comparative ratio analysis to determine weak spots and areas of needed improvement if it is kept in mind that they provide guides, not exact measures.

The past several decades have seen great strides in the development of uniform accounting practices. Trade associations have contributed by encouraging, and often by developing, uniform systems for their members. Such a step has been necessary for those desiring to conduct cost studies for comparative purposes. Still, there are important limitations in comparing individual company records with those produced by such groups.

Accounting practices will differ to some extent whether or not a uniform system is employed. Moreover, not all members of a trade organization will necessarily adopt a uniform system. The very nature of a survey of operating costs will generally introduce some bias into the results. Often the unprofitable or least profitable firms do not care to participate. The user will also discover that results will vary with business size, location, types of services offered, and other factors.

Even when a high degree of selectivity and classification has been used in combining the reports included in a computation of averages or medians, the range of performances of the firms involved will be considerable. For these reasons, variations between the ratios of an individual firm and standard or common ratios are to be expected and are often justified. Nevertheless such variations provide an indication of places to look for improvements in operations and increased profits.

The use of ratios for internal analysis avoids some of the limitations previously described. The individual firm is capable of constancy in the accounting methods it employs, and can, therefore, analyze its own operating experiences from period to period free from some of the limiting factors inherent in trade surveys.

Finally, since the objective of a business venture is the realization of a satisfactory profit from its operation, it is this dollar profit rather than its relationship to some other item that is most important. If a business can produce a greater dollar profit in relation to its investment with lower margin and profit ratios in relation to sales, obviously that is the course it should follow. The goal is adequate dollar profits, not ratios of profit per dollar of sales.

In summary, financial and operating ratios provide guides, not precise measurements, with which businessmen can analyze business operations and compare results with firms operating under similar conditions. Although variations from standard or average results should be investigated, they do not necessarily point to a weakness. However, weaknesses will generally be reflected in the ratios if they do exist. The user of financial and operating ratios should be aware of differences in accounting methods and should learn all he can about possible bias in the data he employs. He should understand that operating results vary according to size of business, location, type of ownership, credit and delivery policies, rate of profit earned, and other factors.

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CHAPTER 2

OPERATING RATIOS

Definition and Purpose of Operating Ratios

The profit-and-loss statement serves as the major instrument in evaluating a firm's operating performance. Operating ratios express relationships among items which constitute the statement and assist in an analysis by putting the data in a more understandable form. They inform the business analyst how many cents out of each dollar of sales are expended for the cost of merchandise and for each item of expense, and how many remain as profit.

This type of analysis enables a close examination of each element of expense incurred in the production of income. It enables an evaluation of results in light of the firm's operating practices and policies, and it makes possible a comparison of results with those of similar businesses.

Operating ratios are, therefore, tools used to lower costs, to improve efficiency of operations, and to increase the profitability of the business. This should be of vital concern to businessmen, especially in a period when most trades are confronted with rising costs which seriously threaten their profits. Many firms are in the position of having their selling prices largely determined by competitive forces, and are thereby forced to rely on their ability to hold costs in line in order to achieve desired profit margins.

The advantages of increasing profits by lowering operating costs are obvious, yet the opportunities for substantial savings are easily overlooked. For example, a firm with annual sales of $1 million, of which 30 percent goes to payment of operating costs and 3 percent to the owners as net profits, would have to increase its volume of business 50 percent, or $500,000 annually, to provide the additional net profit that would result from a 5-percent reduction in operating costs (other things remaining equal). The businessman who will apply such reasoning to his own set of figures will take little time to realize that a serious study of his operating results is well worth the effort. And he will discover that operating ratios provide him with a most convenient tool for this purpose.

Computation of Operating Ratios

As previously stated, operating ratios are computed from information presented in the statement of profit and loss. While the form of the statement of profit and loss varies widely among different trades, and among different establishments within the same trade, in general it should include the following elements:

Net sales.—Gross sales, less all returns and allowances and exclusive of sales tax revenues.

Cost of goods sold.—Beginning inventory, at cost, plus net purchases (gross purchases less purchase returns and allowances, plus freight in), less ending inventory, at cost.

Gross profit.—Net sales, less cost of goods sold.

Operating expenses.—All cash and noncash expenses incurred in the operation of the business. In general, such expenses are broken down and classified under several major headings; for example, owner's or manager's salary, all other salaries, occupancy or rental expense, utilities, supplies, insurance, taxes (excluding taxes on income), bad debts, depreciation, advertising, miscellaneous.

Net profit before taxes.—Gross profit, less total expenses.

The operating ratios are computed by dividing each item in the profit-and-loss statement by net sales. The ratios, therefore, present each income or expense item as a certain percent of net sales, and it is these percentages that are studied with a view toward improving operating efficiency and profitability.

Principal Uses of Operating Ratios

Operating ratios have two principal uses: (1) If computed over a period of years, they may be used to identify changing conditions or trends with reference to the performance of the business. (2) They may also be used to compare the current operations or trends of a business with the typical or average performance of other establishments of the same type as measured by "standard" ratios which are available for many different kinds of business. The use of operating ratios for internal analysis and for comparison with other establishments is briefly outlined below.

Internal Analysis

An appraisal of a firm's operating ratios reveals at a glance the relationship of cost of sales to sales, of total expenses to gross profit, and of net profit to net sales. Ratios for individual expense classifications indicate the relative importance of each element of expense. Perhaps most important of all is the indication of changes in the relationship of each component of the profit-and-loss statement to

sales from period to period. Comparative ratios extending over a period of time permit an examination of internal trends with reference to cost of sales and expenses.

Comparison With Standard Ratios

"Standard" ratios or "common figures" present averages or medians of operating ratios for a group of businesses of similar type. Such ratios may be computed as national averages or may be broken down on the basis of geographical areas or city-size groups. Separate classifications may also be made to provide ratios for sales-volume groups, or for different types of operation within a single trade—for example, cash and carry versus credit and delivery, or service versus self-service, in the grocery trade.

In comparing the operating ratios of an individual business with standard or common figures, care should be taken to insure that the firms included in the computation of the averages or medians used are similiar to the individual business analyzed. National averages with no breakdown for size or type of operation are of little use in this connection except as very rough guides. Variations between different-size businesses or different types of operation within a single trade may be extreme and therefore misleading.

Illustration of Use of Operating Ratios

To illustrate the type of analysis that can be made by the use of operating ratios, the operations of a fictitious business, Company X, are compared with the average performance of similiar firms as reported by the Eli Lilly Co., one of the numerous private sources regularly publishing operating statistics.

The business selected is an independently owned drugstore located in a city of about 10,000 persons and having an annual sales volume of $90,000, about one-third of which is prescription income.

For an internal analysis, the profit-and-loss statement of Company X is shown for several successive years, as in table 1, making it possible to note significant year-to-year trends in profit margins and individual expense items.

A glance at table 1 reveals several important facts. First, there is a definite downtrend in the gross margin without a corresponding decline in the total operating expense rate. Consequently, the ratio of net profit to sales has been falling. Total earnings (salary and net profit combined) have declined in recent years, both in terms of dollars and percent of sales, in spite of a steady increase in the yearly volume of sales. Increasing ratios for employees' wages, bad debts, and advertising are also clearly revealed.

TABLE 1.—*Company X: Operating Costs and Ratios, 1953–57*

Profit and loss items	1953		1954		1955		1956		1957	
	Dollars	Percent of sales	Dollars	Percent of sales	Dollars	Percent of sales	Dollars	Percent of sales	Dollars	Percent of sales
Sales	75, 000	100. 0	81, 000	100. 0	86, 350	100. 0	88, 400	100. 0	90, 000	100. 0
Cost of goods sold	49, 575	66. 1	53, 946	66. 6	57, 423	66. 5	59, 228	67. 0	60, 570	67. 3
Gross margin	25, 425	33. 9	27, 054	33. 4	28, 927	33. 5	29, 172	33. 0	29, 430	32. 7
Expenses:										
Proprietor's salary	6, 275	8. 4	6, 650	8. 2	7, 081	8. 2	6, 984	7. 9	6, 930	7. 7
Employees' wages	7, 850	10. 5	8, 749	10. 8	9, 499	11. 0	9, 724	11. 0	10, 085	11. 2
Rent	1, 675	2. 2	1, 740	2. 2	1, 762	2. 1	1, 768	2. 0	1, 802	2. 0
Heat	87	. 1	81	. 1	85	. 1	88	. 1	90	. 1
Light and power	781	1. 0	791	1. 0	777	. 9	796	. 9	811	. 9
Taxes	780	1. 0	809	1. 0	864	1. 0	884	1. 0	903	1. 0
Insurance	405	. 6	420	. 5	432	. 5	442	. 5	457	. 5
Interest paid	75	. 1	87	. 1	80	. 1	85	. 1	185	. 2
Repairs	211	. 3	225	. 3	249	. 3	265	. 3	263	. 3
Delivery	205	. 3	261	. 3	275	. 3	289	. 3	272	. 3
Advertising	1, 375	1. 8	1, 545	1. 9	1, 701	2. 0	1, 789	2. 0	1, 981	2. 2
Estimated total depreciation	805	1. 1	915	1. 1	1, 035	1. 2	1, 061	1. 2	1, 081	1. 2
Bad debts	205	. 3	245	. 3	275	. 3	354	. 4	448	. 5
Telephone	175	. 2	175	. 2	175	. 2	175	. 2	178	. 2
Miscellaneous	1, 450	1. 9	1, 395	1. 7	1, 494	1. 7	1, 680	1. 9	1, 705	1. 9
Total expenses	22, 354	29. 8	24, 088	29. 7	25, 784	29. 9	26, 384	29. 8	27, 191	30. 2
Net profit	3, 071	4. 1	2, 966	3. 7	3, 143	3. 6	2, 788	3. 2	2, 239	2. 5
Proprietor's withdrawals	6, 275	8. 4	6, 650	8. 2	7, 081	8. 2	6, 984	7. 9	6, 930	7. 7
Total income before taxes	9, 346	12. 5	9, 616	11. 9	10, 224	11. 8	9, 772	11. 1	9, 169	10. 2

A comparison of Company X figures with those of standard ratios for similar-type businesses is the next consideration. This comparison is shown in table 2, which presents Company X profit-and-loss figures and accompanying operating ratios (columns 1 and 2), along with appropriate data from the *Lilly Digest of Retail Drug-Store Income and Expense Statements for 1957* for stores having annual sales volumes of $75,000 to $100,000, and located in cities with population ranging from 5,000 to 20,000. These are the standard ratios most applicable to the firm used as an example (shown in column 3 of table 2). The average ratios for stores reporting from 25 to 40 percent of their total income from prescription sales are also shown (in column 4), since the relationship of prescription income to total store sales is also an important factor.

These figures make possible direct comparison of the Company X ratios with standard ratios by noting all variances for which explanations should be sought. It is well to observe at this point that differences from the average ratios may be favorable rather than an indication of some weakness or situation needing correction. The important thing is to examine the variances carefully, to determine the reasons why they exist, and then to take positive steps to correct the situations that reflect inefficiency in the operation of the business.

From such analysis it is apparent that the gross margin of Company X is substantially lower than the average margins for other stores as shown in columns 3 and 4. This low gross-margin ratio could indicate inadequate initial markups, excessive markdowns resulting from buying mistakes, or a deliberate policy of selling at low prices in order to achieve a larger sales volume. If the latter case is indicated, it is necessary to examine operating costs closely, for such a policy to be successful must result in the desired sales volume and be accompanied by low operating costs.

Assuming that this is, in fact, what Company X is attempting to accomplish, the total operating expense ratio of 30.2 percent of sales would seem to indicate that the firm had failed to hold its operating costs in line. As a result, the net profit ratio of 2.5 percent was about half of what could be expected for the sales volume attained. The situation is still less encouraging from a standpoint of total return for the proprietor, including his salary as well as net profit, since the proprietor provided himself with less salary than would appear to be typical.

It remains, then, to examine each of the expense categories in search of explanations for the high operating expense rate and resulting low profits. The items that immediately stand out are employees' wages, advertising expense, and bad-debt expense. The company has apparently felt it necessary to spend more for advertising to make its lower prices generally known. However, the advertising ratio is

Table 2.—*Operating Ratios of Company X and Comparative Ratios From Lilly Digest, 1957*

	Col. 1	Col. 2	Col. 3		Col. 4	
	Profit and loss statement, Company X	Operating ratios, Company X	Operating ratios, stores with sales volume $75,000–$100,000 in cities of 5,000–20,000 population (Lilly Digest)		Operating ratios, stores with sales volume $75,000–$100,000 with prescription income 25–40 percent of sales (Lilly Digest)	
	Dollars	*Percent*	*Percent*		*Percent*	
Sales	90, 000	100. 0	100. 0		100. 0	
Cost of goods sold	60, 570	67. 3	65. 2		65. 6	
Gross margin	29, 430	32. 7	34. 8		34. 4	
Expenses:						
Proprietor's salary	6, 930	7. 7	8. 8		9. 0	
Employees' wages	10, 085	11. 2	10. 4		9. 2	
Rent	1, 802	2. 0	2. 5		2. 2	
Heat	90	. 1	. 1		. 1	
Light and power	811	. 9	. 9		. 8	
Taxes	903	1. 0	. 9		. 9	
Insurance	457	. 5	. 5		. 5	
Interest paid	185	. 2	. 2		. 3	
Repairs	263	. 3	. 4	8. 3	. 3	7. 5
Delivery	272	. 3	. 3		. 3	
Advertising	1, 981	2. 2	1. 7		1. 2	
Estimated total depreciation	1, 081	1. 2	1. 1		1. 1	
Bad debts	448	. 5	. 1		. 1	
Telephone	178	. 2	. 3		. 3	
Miscellaneous	1, 705	1. 9	1. 8		1. 6	
Total expenses	27, 191	30. 2	30. 0		27. 9	
Net profit	2, 239	2. 5	4. 8		6. 5	
Proprietor's withdrawals	6, 930	7. 7	8. 8		9. 0	
Total income before taxes	9, 169	10. 2	13. 6		15. 5	

so substantially greater than average that it appears that all of the anticipated increase in sales volume was not achieved, and that what sales gains were accomplished were to some extent the result of accepting too large a number of doubtful accounts. The effectiveness of the advertising effort and company credit policy would definitely be two areas demanding immediate attention.

A third area of concern is indicated by the high ratio of employees' wages to sales. This may be the result of inefficient help, the employment of too many clerks for the sales volume attained, poor store arrangement, or other factors. On the other hand, it is possible that a high wage ratio is a planned management policy to provide better

service instead of spending more on fixtures or advertising. Such a possibility, however, appears unlikely in this example, in view of other ratios. In any event, this wage ratio needs thorough study, and its possible relationship to other expense ratios should be kept in mind. For instance, if labor force inefficiency partially explains the failure to achieve the desired sales volume, it also explains in part the high advertising expense ratio.

The low ratio of rent to sales as compared to trade averages deserves comment. It is not necessarily true that low ratios indicate areas of efficiency. In the example under study, a low rental ratio may be the result of poor location, in which event it, too, is an area of needed investigation.

The results of Company X can also be compared with trade averages in terms of dollars. Table 3 makes such a comparison by showing the profit-and-loss statement of Company X (column 1) together with a statement derived by applying standard ratios to an annual sales volume of $90,000 (the sales volume attained by the ficticious company). The ratios employed in this calculation, shown in column 4 of table 2, represent standard ratios for stores with annual sales of from $75,000 to $100,000 and with prescription income equivalent to 25–40 percent of sales.

The dollar differences for each item in the profit-and-loss statement of Company X and in the statement prepared from the standard ratios are shown in column 3 of table 3. The areas of management weakness and its effect upon the proprietor's total income are readily apparent.

The above analysis is in no sense complete, but it illustrates the manner in which operating ratio analysis proceeds. The reader will want to use as many appropriate categories and breakdowns of data as possible when analyzing his own ratios. He also must consider each factor in light of the background and circumstances peculiar to his own business.

TABLE 3.—*Comparison of Company X Profit and Loss Statement With Average Results as Derived From Standard Ratios*

	Col. 1	Col. 2	Col. 3
	Profit-and-loss statement, Company X	Standard ratios applied to sales volume of $90,000 [1]	Difference (col. 1 minus col. 2)
Sales	$90, 000	$90, 000	
Cost of goods sold	60, 570	59, 040	+$1, 530
Gross margin	29, 430	30, 960	−1, 530
Expenses:			
Proprietor's salary	6, 930	8, 100	−1, 170
Employees wages	10, 085	8, 280	+1, 805
Rent	1, 802	1, 980	−178
Heat	90	90	0
Light and power	811	720	+91
Taxes	903	810	+93
Insurance	457	450	+7
Interest paid	185	270	−85
Repairs	263	270	−7
Delivery	272	270	+2
Advertising	1, 981	1, 080	+901
Estimated total depreciation	1, 081	990	+91
Bad debts	448	90	+358
Telephone	178	270	−92
Miscellaneous	1, 705	1, 440	+265
Total expenses	27, 191	25, 110	+2, 081
Net profit	2, 239	5, 850	−3, 611
Proprietor's withdrawals	6, 930	8, 100	−1, 170
Total income before taxes	9, 169	13, 950	−4, 781

[1] Derived from standard ratios in col. 4 of table 2.

CHAPTER 3

FINANCIAL RATIOS

Definition and Purpose of Financial Ratios

The purpose of financial ratios is to assist in understanding the true financial position of an enterprise. Individuals invest in a business—the business acquires assets and incurs liabilities—goods are purchased for resale and services are offered—business is transacted. How is the business affected by its operating experience? What is the firm's financial posture, and what are its prospects for the future?

The past several decades have seen a change in emphasis from the balance sheet to the profit-and-loss statement as the major instrument in financial analysis. A firm's history of earnings is often advanced as the best evidence of its financial stability and solvency. Involved in this important change were several factors, not the least of which was Federal income tax legislation.

It is a mistake, however, to rely solely on the income statement in the analysis of a firm's financial position. Questions of great importance are answered only from a careful examination of balance-sheet data. Are there adequate resources? Are they so apportioned as to do the greatest good? Is there a healthy balance between equity and creditor interests? Is working capital sufficient to support safely the volume of business being transacted? Does the investment yield an adequate return?

These and other related questions are perhaps summarized by asking, Just how healthy is the business? Does it enter the next period fresh and at full strength, or are there wounds from the previous year that keep it from being as vigorous as it might otherwise be? The answers are sought through the use of financial ratios.

Financial ratios are relationships between items on the balance sheet, or between one item on the balance sheet and one item on the profit-and-loss statement. These relationships may be expressed in the form of percentages or ratios. As with operating ratios, the computation of these ratios makes possible the presentation of data in a more understandable form and the creation of a convenient basis for comparison, both with a firm's previous experience and with the operating experiences of other businesses. Many financial ratios can be

calculated, and there are differences of opinion as to their relative importance. Discussed below are the ratios believed to be among the most meaningful and useful.

The reader will discover an absence of "general rules" as to the most desired relationships that such ratios should reveal. Some generalizations are possible, but the desire to have convenient readymade "rules of thumb" in appraising financial relationships is often strong and leads to evaluation without understanding, which can easily result in misuse. The generalizations are therefore omitted to encourage study of the various ratios, their meanings and applicability to particular trade types.

A special word of caution is in order. Financial ratios involve items from the balance sheet, which is a statement of financial condition as of a given date. That date may fall at a low point or a high point of business activity, or anywhere between. Many businesses draw their statements at the end of the calendar year, regardless of the level of activity at that time. This important factor must be considered by anyone comparing his own ratios with averages for his particular trade.

Ratios Pertaining to Flow of Current Assets

A successful business operation is dependent upon the maintenance of a proper balance between incoming and outgoing funds. The current assets of a retail or wholesale business are involved in a circular flow which should produce a profit. Basically this flow is that of cash into goods and labor and back to cash again. This cycle is the heart of a firm's operations. Its interruption affects the profitability and liquidity of the business. Measurements leading to an understanding of this vital process are of obvious importance.

In actual practice, much of the funds required for the purchase of merchandise and for the operating expenses of the business are made available through short-term indebtedness. Also, the sale of goods often results in the establishment of an account receivable rather than in an immediate conversion into cash. Indebtedness, then, is a normal part of carrying on business operations, and the existence of current obligations attaches a great importance to the quality of receivables. If an unusual amount of the receivables proves uncollectible, not only will the hoped-for profit be eliminated, but the liquidity of the firm is threatened through possible inability to meet claims of creditors.

Current indebtedness also becomes important from the standpoint of its actual size. It follows naturally that its size should bear some relationship to the current assets from which creditors' claims must be satisfied. The distribution of assets also is a consideration since

the liquidity of the business is affected by the various proportions of current assets represented by cash, receivables, and inventories.

The speed with which the flow of assets takes place, or the velocity of the business, is also highly important. This leads to a study of turnover of current assets, inventory, and working capital.

This discussion demonstrates the importance of knowing certain relationships bearing on the vital flow of current assets, the dynamic part of the business operation. The analyst needs to know about the collectibility of receivables, the size of current obligations and the promptness with which they are paid, the relationship of current debt to the current assets which provide the funds for payment, the distribution of current assets, the speed with which the merchandise moves, and the level at which inventories should be maintained. All these contribute to the adequacy or inadequacy of working capital and its turnover.

Those relationships dealing with this aspect of the business operation provide an appropriate place to begin a study of financial ratios. Such ratios include: Current assets to current debt; average collection period; purchases to trade payables; cash, receivables, and inventories to total current assets; net sales to net working capital; inventory turnover; and inventory to net working capital.

Current Assets to Current Liabilities

The ratio of current assets to current debt was one of the first financial relationships to be developed and was used as a basis for determining the margin of protection for short-term creditors. A rule of thumb developed that a ratio of 2 to 1 should exist if a firm was on solid ground. It is now known that there are differences in the financial structures of differing types of businesses, that these differences must be considered, and that an easy rule to cover all trades is unreasonable and misleading.

Current assets consist of cash and other assets that will normally be converted into cash during the accounting period, usually 1 year. Cash, receivables, inventory, and temporary investments are the major classifications of current assets. Current liabilities are short-term debts, due within the accounting period.

Some businessmen go one step further and determine the relationship between current debt and those current assets readily available for the payment of obligations, namely cash, receivables, and marketable securities. This ratio is referred to as the "acid test." Some prefer it over the current ratio because of uncertainty about future conversion of inventories to cash, and also because of uncertainty as to inventory valuation.

Net Sales to Net Working Capital

Net working capital is the difference between current assets and current debts. The ratio of sales to working capital is used to measure the velocity of business activity. What sales are being produced by present working capital? Should they be greater, or is the business overtrading? The relationship discussed here is an important financial characteristic of every business enterprise.

It is not difficult to understand that a business with a low ratio (low for its trade) of sales to net working capital should either reduce working capital to efficient levels or increase sales to a more profitable level. Somewhat more difficult to see are potential dangers that arise when a business has too great a turnover of its working capital, when too large a volume of business is being supported by its working capital. The business may be very profitable, further obscuring any danger. It should be emphasized that when sales are supported by an inadequate working capital, the very delicate balance of incoming and outgoing funds that results is easily upset with any interruption in the flow of funds, such as the sudden loss of sales or poor collection performance.

The solution to an overtrading condition is the investment of additional funds in the business. If this is not possible, the working capital position can be improved through retention of earnings. A less desirable alternative is to reduce sales by increasing prices or by changing credit terms, but only after careful analysis to determine effect on profits.

Cash, Receivables, and Inventory to Total Current Assets

Study of the distribution of current assets assists in evaluating liquidity of the working capital. Each current asset item is expressed as a percent of total current assets. Each item can then be seen in relation to the others, and trends in the relative position of each item over successive periods can be studied. Of course, the greater the proportion of current assets made up of cash and receivables, the more liquid the firm's working capital position.

This does not mean that the higher the ratio of cash and receivables to current assets the better. There may be idle cash, or there may be overinvestment in receivables; or possibly inventories are far lower than they should be. The distribution of assets should be examined carefully in terms of the particular trade, the situation of the firm in question, and seasonal considerations, as well as with the realization that there should be concurrent consideration of other financial ratios.

Average Collection Period

What is the quality of the receivables? Do the sales included in the profit-and-loss statement represent true income, or will many of the accounts receivables behind these sales eventually prove uncollectible?

A complete analysis of receivables involves aging the accounts to determine how many are past due and how many days past due each account is. However, there is a quick method to determine the overall quality of the receivables. This approach involves examining the receivables in the light of credit terms extended by the firm in question. For example, if the terms of sale provide for payment in 30 days, then, barring seasonal factors, there should be approximately 30 days' credit sales in receivables at any given time.

The computations necessary for such an analysis are quite simple. Annual credit sales are divided by 365 to determine average credit sales per day. The resulting figure is then divided into total receivables, the answer representing the number of days sales in receivables or the average collection period. The comparison is then made with the terms of sale. If the collection period is substantially longer than the period provided by the terms of sale, the firm faces a potentially serious situation.

Purchases to Trade Payables

Akin to the preceding ratio is the ratio of purchases to trade payables, the purpose of which is to show the promptness with which suppliers are paid.

The computation involves the division of annual purchases by 365 to determine average daily purchases. The result is then divided into trade payables, the answer representing the number of days purchases in payables as of the balance sheet date. A low figure indicates that the firm pays suppliers regularly and that its short-term finances are probably sound. A figure that is high for the particular trade indicates a weakness in meeting current obligations and failure to take advantage of discounts offered for prompt payment. As in the computation of the average collection period for receivables, seasonal factors should be considered when this ratio is employed.

Cost of Sales to Inventory (Inventory Turnover)

The primary function of a wholesale or retail business is buying and selling merchandise. The turnover of capital invested in merchandise is the essential process by which profits are realized, and effective control of this most important income-producing asset is therefore vital to success of the business.

The business proprietor or manager has as his objective a well-assorted stock of goods at all times, with a minimum of investment

in inventory. He seeks to maintain a desirable balance between stocks and consumer demand. If he has too large an inventory, the risks of stock depreciation and obsolescence become greater, storage space requirements increase, ability to replace slow-moving stocks with new merchandise is endangered, and profits are immediately lessened to the extent of interest charges on use of additional funds. If an inadequate quantity or assortment of merchandise is maintained, the volume of business suffers quickly and future sales are threatened with the loss of potential repeat customers.

Several financial ratios assist in analyzing inventory management. One is that which relates the cost of goods sold to the average inventory, telling the analyst how many times a year the investment in inventory is turning over. In the absence of cost-of-goods-sold figures or good comparative data, the ratio of sales to inventory can be used. There should be a consistency in the method used in arriving at the turnover ratio and in that employed in the surveys that form the basis for comparison.

One difficulty in the use of the inventory turnover rate is that it is affected not only by the volume of sales but also by inventory management policies, since average inventory is one factor in its computation. Thus, similar businesses having the same volume of sales can report different turnover rates solely because of differences in inventory levels. Similarly, a change in the level of inventory can bring about a change in an individual firm's turnover rate from one period to the next, even if the volume of business transacted remains unchanged.

As a rule, the analyst will not be troubled by these difficulties but will be satisfied that turnover rates can be adequate for his purposes. It is well to be aware of the factors which influence the determination of these rates, however, so that the unusual case may be recognized and results properly analyzed.

Inventory to Net Working Capital

The relationship of inventory to net working capital is another important element of a firm's financial makeup. Sometimes this relationship is ignored, as when management proceeds under the impression that when stock turnover rate is satisfactory the inventory level is correct. This reasoning will be used to justify sharply higher inventories when sales are increasing. Perhaps the desire to speculate on price changes is too strong to resist, so the proprietor buys heavily in anticipation of price increases.

Inventory advances to an unsafe level will be reflected in the ratio of inventory to net working capital, whether or not the turnover rate remains unchanged. Inventories are usually increased by increasing current liabilities. If inventories advance without regard for the

normal relationship to net working capital, a decline in sales and prices could seriously threaten ability to pay creditors, possibly forcing an inventory liquidation at a loss to provide the necessary funds.

Net working capital, as stated previously, is the excess of current assets over current liabilities. The inventory value is that value as of a given date rather than an average inventory as used in computing merchandise turnover.

Net Worth Ratios

The following ratios are all concerned with net worth. The net worth of a business is the excess of its assets over its total liabilities. It represents the owner's equity in the business. The ratios selected for discussion here are used to compare equity interests to creditor interests, to evaluate business profits, and to analyze investment in fixed assets.

It should be noted that net worth in these ratios is preferably tangible net worth. Intangible assets such as goodwill, patents, copyrights, etc., should be deducted in arriving at net worth for this type of analysis.

Liabilities to Net Worth

The assets of a business are acquired by funds provided by both owners and creditors. A comparison of creditors' claims with the owner's investment is significant. It shows how dependent the business is on its creditors, or looking at it from another standpoint, it is an indication of the security afforded to creditors.

Two ratios are used in analyzing creditor and equity interests. The first is that of current liabilities to net worth, which compares the temporary or short-term claims of creditors with owner's investment. The second is that of total liabilities to net worth, which means that long-term indebtedness such as mortgages, bonds, debentures, and other obligations maturing more than 1 year later also are included in the computation.

Both ratios are determined in order to compare short-term and long-term indebtedness and to evaluate the relative size of each to net worth. It is possible to overlook a dangerous situation if but one of the ratios is employed. For example, the ratio of current debt to net worth may be entirely satisfactory when in fact heavy long-term indebtedness has endangered the business.

Fixed Assets to Net Worth

Unfortunately, there is a tendency among many businessmen to overinvest in fixed assets. Often after a period of highly profitable experience the desire to modernize and "have the very latest" gets

carried to an extreme. With some it is simply poor judgment, such as buying when facilities should be rented or buying simply for show purposes. The result is an increased burden in depreciation and interest charges, a double-barreled blow at the profit-and-loss statement. If the company then experiences sales difficulties or fluctuating inventory values, it can find itself in real trouble in a very short time.

The ratio of fixed assets to net worth is employed to analyze a firm's position in this respect. Fixed assets consist of tangible assets held for the production of goods and services, and include land, buildings, machinery, equipment, furniture, and fixtures, among the more important items. The value used in computing the ratio is the depreciated book value.

Net Profit to Net Worth

The ratio of net profit to sales is, of course, determined from the profit-and-loss statement. It is important that costs and income be matched and profit per dollar of sales thereby estimated. But the analysis of profit should proceed to a consideration of investment and capital employed, if operating performance is to be adequately measured.

Net profit expressed as a percentage of net worth indicates the return on the owner's equity that is being realized by the business. This is obviously one of the more vital questions for every business operator and investor: Am I realizing the desired return on my investment, or would I do better to seek some other investment opportunity?

The analyst must allow for the fact that accounting data are not adjusted to changes in value of the dollar. Net worth reflects the historical cost of fixed assets less depreciation and is thus understated in relation to current asset values. When the ratio of net profit to net worth is computed on the basis of book values (which do not reflect current replacement costs), it is overstated, often substantially, as a measure of return on the owner's equity in current dollars.

Net Profit to Total Assets

Closely related to the ratio of net profit to net worth is that of net profit to total assets. Through capital provided by creditors as well as by investors, a business acquires the assets it believes essential to the conduct of its operations. The effectiveness of its operations should be analyzed in terms of all of its assets, and not in terms confined to equity interests. This analysis is accomplished by determining the ratio of net profit to total assets.

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Summary

The following quick review defines the ratios just discussed and their respective purposes:

Current assets to current liabilities: Indicates adequacy of working capital in terms of the margin of protection afforded short-term creditors.

Net sales to net working capital: Measures the velocity of business activity.

Cash, receivables, inventory to current assets (distribution of current assets): Indicates liquidity of working capital.

Average collection period: Shows collectibility and turnover of receivables.

Purchases to trade payables: Shows promptness of payment to suppliers.

Cost of sales to inventory: Measures inventory investment turnover rate.

Inventory to net working capital: Assists in evaluating the investment in inventory.

Current liabilities to net worth: Compares short-term claims of creditors to owner's investment.

Total liability to net worth: Shows dependency of business on all of its creditors.

Fixed assets to net worth: Analyzes investment in noncurrent assets.

Net profit to net worth: Shows returns on owner's investment.

Net profit to total assets: Measures profitability in terms of total business assets employed.

Selected List of Current Reference Material on Financial Ratios

For readers who wish to pursue further the study of financial ratios, several excellent references are listed below.

Practical Financial Statement Analysis. Roy Anderson Foulke. 1957.

Basic Financial Statement Analysis. Alexander Wall. 1942.

Financial and Business Statements. Leo Greendlinger. 1944.

Financial Statements: Form, Analysis and Interpretation. Ralph Dale Kennedy and Stewart Yarwood McMullen. 1957.

Analysis of Financial Statements. Harry G. Guthmann. 1953.

Financial Statements. Dallas S. Bolon. 1956.

CHAPTER 4

USES OF UNITED STATES GOVERNMENT STATISTICS

Two agencies of the Federal Government that regularly publish statistics relating to the operating experiences of various distributive trades are the Bureau of the Census and the Internal Revenue Service. The following sections are devoted to an explanation of the data available from these sources, and to tabulations of these data that have been developed for this publication.

Bureau of the Census

The Bureau of the Census conducts censuses of the business community usually at 5-year intervals, the most recent having been taken in 1954. A new Census of Business currently underway (1959), based on 1958 operations, will provide more recent data. The survey of retail trades offers little operating data other than payroll and sales figures, but the census of wholesale trades contains much useful information for each of the individual trades reported.

For example, the 1954 Census of Business included the following information in its wholesale trade survey:

Total operating expense ratio to sales, payroll, and year-end inventory, by kind of business, for the United States and by States.

Total operating expense ratio to sales and payroll, by kind of business classified by sales size.

Frequency distribution of operating expense ratios for various kinds of businesses grouped by sales size.

Payroll expense for various businesses classified by size of employment.

Total operating expense ratio to sales, and payroll expense for various business types classified by number of establishments operated.

Total operating expense ratio to sales, payroll, and year-end inventories, by kind of business, classified by legal form of organization.

Credit sales, year-end receivables, and bad-debt loss, each expressed as percent of total sales, by kind of business, for the United States and by standard metropolitan areas.

The 1948 Census of Business showed for major types of wholesaling a most useful breakdown of total operating expenses into administrative, selling, shipping-delivery, warehouse, occupancy, and other. These figures, though quite dated, are still helpful to analysts in many wholesale trades.

The Bureau of the Census also publishes the *Monthly Wholesale Trade Report* which reports sales, year-end inventories, and stock-sales ratios for major merchant wholesale trade types. This report is based on a sample survey.

Several tables are presented to acquaint the reader with some of the valuable operating data reported in the Census of Business, and to demonstrate additional useful series which may be computed from the same figures. Tables 4 through 9 are compilations of figures on tobacco distributors' operations taken from tables 1A, 1C, 2A, 2C, 2E, 2H, and 3A of *Volume III, Wholesale Trade: Summary Statistics*, 1954 Census of Business. The facsimile from three of the Census tables, figure 1, page 28, shows the manner in which these data are reported.

Tables 4 through 9 show for tobacco distributors the number of establishments and sales volumes of firms of various size groups; the influence of sales size upon the operating expense ratio; the frequency with which firms report operating expense ratios within various range groupings; the extent of the use of credit, the relationship of receivables to sales, and bad-debt losses experienced by the trade; the relationship of sales and operating expense ratios to the number of establishments operated by firms; sales and payrolls of firms grouped by the number of paid employees; inventories as of a given date; and a comparison of 1954 results with those of a previous period. Similar data are available for 160 types of wholesale trade. Although only U.S. figures are shown in the illustrations, many of the series are also reported on a regional, State, county, or metropolitan area basis.

Trade analysts can increase the value of the census data by developing certain relationships among the various reported series. For example, sales can be divided by year-end inventories to determine sales-stocks ratios, a most useful aid in business analysis (see p. 19). Payroll, generally the most important single item of operating expense, can be related to sales and also to total operating expenses as a means of evaluating the efficiency and productiveness of the work force. Operating and payroll expense ratios can be correlated to size of business, number of establishments operated by firms, and geographic locations. Trends from previous census reports aid in understanding trade developments and their implications for particular business firms.

TABLE 4.—*Tobacco Distributors' Operating Data: 1954 and 1948—United States*

Number of establishments		Sales		Inventories, end of year, at cost		Operating expenses (incl. payroll) as percent of sales		Payroll, entire year	
1954	1948	1954 ($1,000)	1948 ($1,000)	1954 ($1,000)	1948 ($1,000)	1954 (%)	1948 (%)	1954 ($1,000)	1948 ($1,000)
2,858	2, 701	3, 208, 929	2, 487, 122	145, 504	113, 749	5. 9	5. 2	103, 779	75, 327

TABLE 5.—*Tobacco Distributors' Sales and Payroll: 1954—United States, by Employment Size of Establishment*

Employment size of establishment	Number of establishments	Sales ($1,000)	Payroll ($1,000)
Tobacco distributors, total	2, 858	3, 208, 929	103, 779
Establishments with—			
1–3 paid employees	917	330, 821	5, 473
4–7 paid employees	777	551, 859	13, 541
8–19 paid employees	826	1, 140, 047	35, 757
20–49 paid employees	291	839, 688	32, 091
50 or more paid employees	47	346, 514	16, 917

Table 6.—*Tobacco Distributors' Operating Data: 1954—United States*

All establishments					Establishments reporting credit sales		
Number of establishments	Sales ($1,000)	Year-end inventories (cost) ($1,000)	Operating expense ratio to sales (percent)	Payroll ($1,000)	Credit sales as percent of sales	End-of-year receivables as percent of sales	Bad debt losses as percent of sales
2,858	3, 208, 929	145, 504	5. 9	103, 779	70. 8	4. 0	0. 07

Table 7.—*Frequency Distribution of Tobacco Distributors' Operating Expense Ratio: 1954—United States, by Sales Size of Establishment*

Sales size of establishment	Number of establishments having ratio of operating expense to sales of—										
	All establishments	Less than 5.0 percent	5.0 to 6.9 percent	7.0 to 8.9 percent	9.0 to 10.9 percent	11.0 to 13.9 percent	14.0 to 16.9 percent	17.0 to 19.9 percent	20.0 to 24.9 percent	25.0 to 29.9 percent	30.0 to 34.9 percent	35.0 percent or more
Tobacco distributors, total	2, 858	1, 324	673	352	176	96	69	37	34	13	8	76
Establishments operated entire year with annual sales of—												
$2,000,000 and over	384	195	105	46	24	9	3	1	1	------	------	------
$1,000,000 to $1,999,000	583	282	150	86	38	13	6	5	3	------	------	------
$500,000 to $999,000	764	356	184	103	36	23	20	9	7	3	2	21
$200,000 to $499,000	734	349	161	85	45	22	20	10	9	4	2	27
Less than $200,000	335	117	60	28	26	27	19	11	12	6	3	26

TABLE 8.—*Tobacco Distributors' Selected Operating Data: 1954—United States, by Sales Size of Establishment*

Sales size of establishment	Number of establishments	Sales ($1,000)	Operating expenses as percent of sales	Payroll ($1,000)
Tobacco distributors, total	2, 858	3, 208, 929	5. 9	103, 779
Establishments operated entire year, total	2, 800	3, 158, 575	5. 9	102, 235
With annual sales of—				
$10,000,000 and over	13	165, 698	5. 5	5, 372
$5,000,000 to $9,999,000	56	383, 297	4. 8	12, 446
$2,000,000 to $4,999,000	315	938, 492	5. 2	30, 479
$1,000,000 to $1,999,000	583	822, 832	5. 6	26, 916
$500,000 to $999,000	764	558, 886	7. 2	17, 920
$300,000 to $499,000	451	179, 323	7. 3	5, 487
$200,000 to $299,000	283	70, 986	8. 1	2, 040
$100,000 to $199,000	211	31, 731	7. 9	1, 078
$50,000 to $99,000	77	6, 104	13. 0	345
Less than $50,000	47	1, 226	22. 7	152

TABLE 9.—*Tobacco Distributors' Selected Operating Data: 1954—United States, by Number of Wholesale Establishments Operated by Firms*

Number of wholesale establishments operated by firms	Number of establishments	Sales ($1,000)	Operating expenses as percent of sales	Payroll ($1,000)
Tobacco distributors, total	2, 858	3, 208, 929	5. 9	103, 779
In single-unit firms	2, 541	2, 605, 030	5. 7	78, 896
In multiunit firms with—				
2 or 3 establishments	132	254, 330	7. 6	11, 592
4 to 9 establishments	115	225, 715	6. 5	9, 250
10 to 24 establishments; 25 or more establishments	70	123, 854	5. 4	4, 041

Table 2A. MERCHANT WHOLESALERS: 1954—SALES SIZE OF ESTABLISHMENT—UNITED STATES, BY KIND OF BUSINESS

Establishments, Sales, Operating Expense Ratio, and Payroll

Kind of business and sales size of establishment	Establishments (Number)	Sales ($1,000)	Operating expenses (including payroll) as percent of sales	Payroll, entire year ($1,000)
Merchant wholesalers, total	165,153	101,100,941	13.2	7,018,090
Establishments operated entire year, total	159,687	99,619,703	13.1	6,916,193
With annual sales of—				
$10,000,000 and over	815	18,584,598	5.7	551,450
$5,000,000 to $9,999,000	1,638	11,223,011	9.3	589,154
$2,000,000 to $4,999,000	6,609	19,940,896	11.5	1,280,415
$1,000,000 to $1,999,000	11,969	16,741,594	13.8	1,266,977
$500,000 to $999,000	19,663	13,952,367	16.6	1,200,231
$300,000 to $499,000	19,583	7,656,795	18.9	734,904
$200,000 to $299,000	17,886	4,424,833	20.5	455,305
$100,000 to $199,000	31,174	4,532,948	22.5	503,680
$50,000 to $99,000	25,011	1,857,660	25.4	224,731
Less than $50,000	25,339	705,001	31.0	109,346
Establishments not operated entire year	5,466	1,481,238	14.3	101,897
Grocery, Confectionery, Meat Wholesalers				
General-line grocery wholesalers:				
Voluntary group grocery wholesalers, total	574	2,463,756	7.4	109,849
Establishments operated entire year, total	569	2,456,708	7.4	109,654
... sales of—				
...ver				

Kind of business and sales size of establishment	Establishments (Number)	Sales ($1,000)	Operating expenses (including payroll) as percent of sales	Payroll, entire year ($1,000)
Grocery, Confectionery, Meat Wholesalers—Con.				
Fish, seafood distributors, total	1,808	653,698	16.4	49,172
Establishments operated entire year, total	1,744	636,942	16.4	48,135
With annual sales of—				
$10,000,000 and over; $5,000,000 to $9,999,000	5	48,178	6.0	1,612
$2,000,000 to $4,999,000	38	107,364	10.3	5,607
$1,000,000 to $1,999,000	93	128,613	13.8	8,922
$500,000 to $999,000	192	135,552	18.7	11,080
$300,000 to $499,000	213	81,780	19.4	6,921
$200,000 to $299,000	195	47,784	20.0	4,226
$100,000 to $199,000	385	56,114	23.4	5,542
$50,000 to $99,000	310	22,957	26.1	2,832
Less than $50,000	313	8,600	31.9	1,393
Establishments not operated entire year	64	16,756	16.0	1,037
Meat, meat products wholesalers, total	4,357	2,866,193	10.3	148,803
Establishments operated entire year, total	4,203	2,814,540	10.3	145,733
With annual sales of—				
$10,000,000 and over			6.2	8,109
...9,999,000				11,479

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SIZE OF ESTABLISHMENT OR FIRM — 2–39

Table 2C. MERCHANT WHOLESALERS: 1954–FREQUENCY DISTRIBUTION BY SALES SIZE OF ESTABLISHMENT AND OPERATING EXPENSE RATIO–UNITED STATES, BY KIND OF BUSINESS

Kind of business and sales size of establishment	Number of establishments having ratio of operating expense to sales of—											
	All establishments	Less than 5.0 percent	5.0 to 6.9 percent	7.0 to 8.9 percent	9.0 to 10.9 percent	11.0 to 13.9 percent	14.0 to 16.9 percent	17.0 to 19.9 percent	20.0 to 24.9 percent	25.0 to 29.9 percent	30.0 to 34.9 percent	35.0 percent or more
Grocery, Confectionery, Meat Wholesalers												
General-line grocery wholesalers:												
Voluntary group grocery wholesalers, total	574	87	147	162	119	37	10	7	3	...	...	2
Establishments operated entire year with annual sales of—												
$2,000,000 and over	311	45	91	86	[illegible]	[illegible]	[illegible]	6	...	...	...	...
[illegible],000,000 to $1,999,[illegible]	155	28	29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2	...	...	...
[illegible]	74	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

CREDIT, RECEIVABLES, AND BAD DEBT LOSSES — 3–3

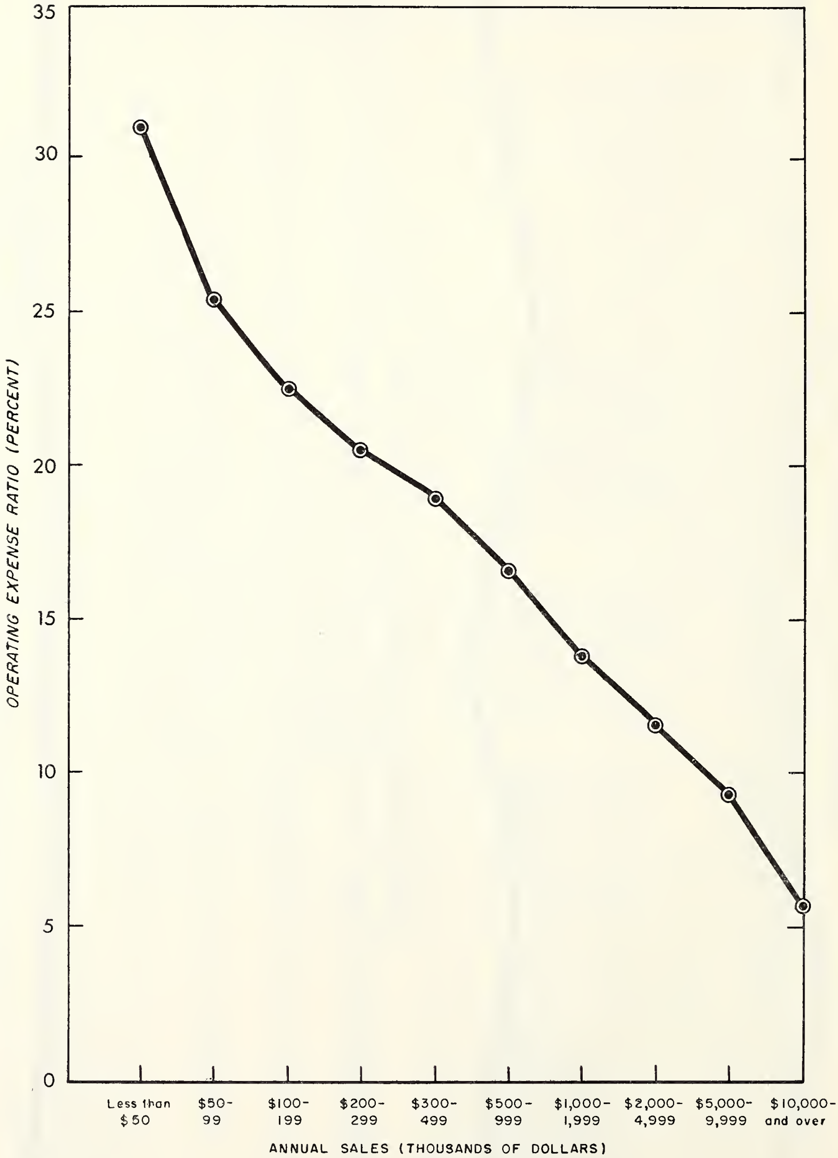
Table 3A. MERCHANT WHOLESALERS. 1954–CREDIT, RECEIVABLES, BAD DEBT LOSSES–UNITED STATES, BY KIND OF BUSINESS

Establishments, Sales, and Credit Ratios

Kind of business	All establishments		Establishments reporting credit sales					Establishments reporting cash sales only		Establishments not reporting cash-credit data	
	Number	Sales, cash and credit ($1,000)	Number	Sales, cash and credit ($1,000)	Credit sales as percent of sales	End-of-year receivables as percent of sales	Bad debt losses as percent of sales	Number	Sales ($1,000)	Number	Sales ($1,000)
Merchant wholesalers, total	165,153	101,100,941	118,008	74,147,085	88.3	8.4	0.14	13,715	7,315,865	33,430	19,637,991
Grocery, confectionery, meat wholesalers:											
General-line grocery wholesalers	3,320	7,353,560	2,390	[illegible]	84.7	3.8	0.06	259	435,201	671	1,455,268
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.2	0.06	[illegible]	[illegible]	[illegible]	[illegible]280,533

Figure 1. **Facsimile of Wholesale Trade Data from 1954 Census of Business**

Figure 2. - OPERATING EXPENSE RATIOS FOR MERCHANT WHOLESALERS: 1954 - UNITED STATES BY SALES SIZE OF ESTABLISHMENT



Source: Census of Business, 1954

The charts presented, also prepared from 1954 Census of Business data, illustrate some additional analyses to which census data lend themselves. Figure 2, for example, shows the impact of business volume upon the total operating expense rate for all merchant wholesalers. The same general pattern of a decreasing operating expense ratio as sales size increases, holds true for most of the wholesale trade types. However, each kind of business has its own characteristics, and it is interesting to note variations among the trades. The operating expense ratios plotted in figure 3 for tobacco distributors, general-line clothing and furnishings wholesalers, and general-line voluntary group grocery wholesalers show some of the variations in this relationship found among different wholesale trades.

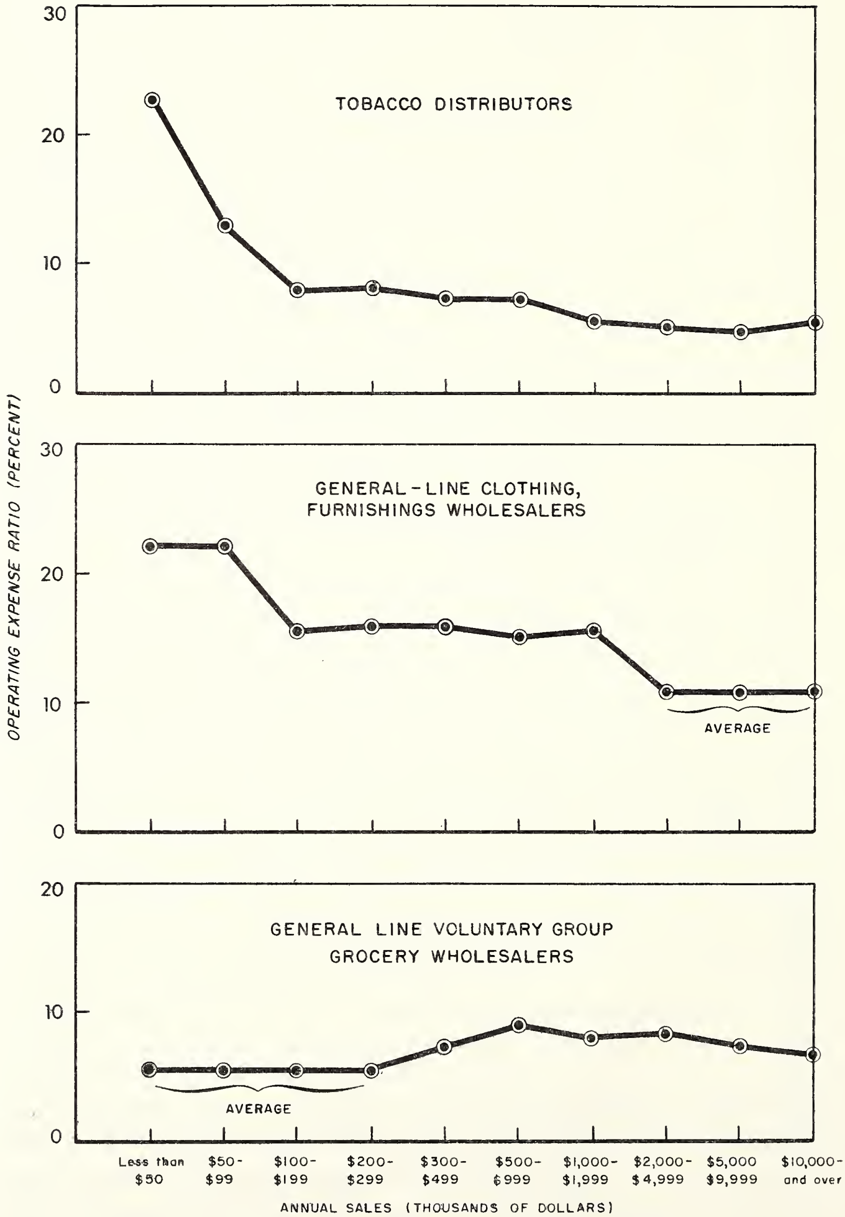
In a number of trades the operating expense ratio has a tendency to vary inversely with business size to a certain point, beyond which the trend is reversed. Thus, as illustrated by the performance of tobacco wholesalers, the ratio declines as business size increases, but again begins to rise slightly among the largest distributors.

Figure 4 shows for the major groupings of merchant wholesale activity (1) the relationship of operating expenses (including payroll), and payroll separately to sales; (2) the relationship of payroll to total operating expenses; and (3) the trend in these ratios since the previous census in 1948.

This type of presentation highlights one of the most important problems confronting wholesalers today, namely, the increase in payrolls and costs relative to sales (increases denoted in black). The chart shows that in all but two instances both of the ratios plotted increased from 1948 to 1954. In no case was the operating expense ratio lower in 1954 than in 1948. For paper and allied products wholesalers, total operating expenses increased but the ratio of payroll to sales declined. An increase in payroll was reported for drugs and chemicals wholesalers, whereas their total operating expense rate remained unchanged. In all other major trade categories, increases in both ratios were noted, in many instances very substantial ones. This pressure from increasing costs is accented in view of the fact that wholesalers traditionally operate on very low profit margins.

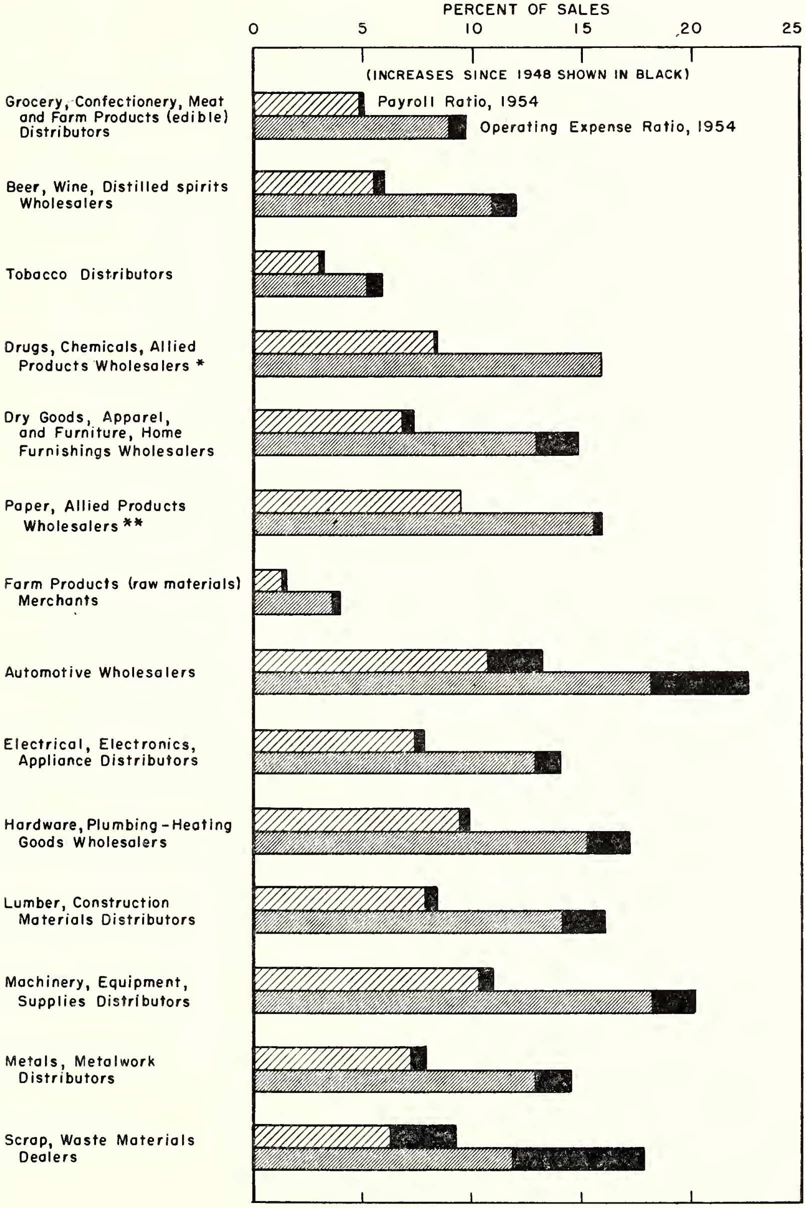
In table 10, data have been developed for over 50 types of merchant trade activity. The data will be of interest to those who wish to make use of some of the previously discussed ratios in their particular trades, and to those who wish to compare various trades or have other need for ratios of many types of wholesale activity. The series tabulated include operating expenses, payroll, year-end receivables, and bad-debt loss, each as a percentage of sales; and sales-stocks ratios. An even greater breakdown by trade type is shown in the Census of Business from which the reader can develop series similar to those in this table and in preceding tables and charts.

Figure 3. - OPERATING EXPENSE RATIOS FOR SELECTED WHOLESALE TRADES: 1954 - UNITED STATES BY SALES SIZE OF ESTABLISHMENT



Source: Census of Business, 1954

Figure 4. - OPERATING EXPENSE AND PAYROLL RATIOS TO SALES FOR MAJOR MERCHANT WHOLESALE TRADE TYPES: 1948, 1954 - UNITED STATES



** Operating Expense Ratio unchanged from 1948.*

*** Payroll Ratio To Sales decline from 9.5 in 1948 to 9.0 in 1954.*

Source: Census of Business, 1954

TABLE 10.—*Merchant Wholesale Trade Operating Ratios: 1954—United States, by Type of Operation and Kind of Business*

[Developed from 1954 Census of Business, Vol. III, Wholesale Trade: Summary Statistics]

Type of operation and kind of business	Operating expenses (including payroll) as percent of sales	Payroll expense as percent of sales	Sales—stocks ratios [1]	Year-end receivables as percent of sales	Bad-debt loss as percent of sales
Merchant wholesalers, total	13.2	6.9	10.6	8.4	0.14
Grocery, confectionery, meat; Farm products (edible)	9.7	5.0	20.4	------	------
General-line grocery	7.5	4.4	13.1	3.8	.06
Confectionery	12.9	6.5	14.8	5.0	.09
Fish, seafood	16.8	7.6	20.5	5.8	.14
Meat, meat products	10.3	5.2	41.6	4.3	.11
Specialty-line grocery (less dairy products)	9.0	4.5	18.2	5.0	.07
Poultry, poultry products (plus dairy products)	10.1	4.8	44.9	4.0	.06
Fresh fruit, vegetables	13.2	6.4	46.2	4.0	.11
Beer, wine, distilled spirits	12.0	6.0	11.1	------	------
Beer, ale	16.3	7.6	22.1	4.7	.10
Wine, distilled spirits	9.1	4.9	8.3	9.8	.09
Tobacco	5.9	3.2	22.1	4.0	.07
Drugs, chemicals, allied products	15.9	8.4	9.7	------	------
General-line drug	13.6	8.2	7.2	9.5	.09
Specialty-line drug, toiletries	16.9	8.3	11.2	7.5	.08
Industrial chemicals, explosives	15.9	7.6	14.7	8.7	.11
Paint, varnish	23.8	12.4	10.0	11.1	.25
Dry goods, apparel; Furniture, home furnishings (plus musical instruments, sheet music)	14.8	7.3	8.1	------	------
Clothing, furnishings, footwear	15.4	7.3	9.2	12.8	.19
General-line dry goods	14.4	8.4	7.2	13.4	.10
Specialty-line dry goods (plus curtain, drapery; domestics)	13.9	6.7	8.5	11.0	.14
Piece goods converters	9.7	4.6	6.4	9.2	.10
Furniture (household office)	21.1	11.0	10.2	10.5	.19
Home furnishings, floor coverings (less curtain, drapery; domestics; plus musical instruments, sheet music)	17.9	9.2	8.0	12.2	.22
Paper, allied products	15.9	9.0	11.6	------	------
Coarse paper and products; Printing and fine paper	14.0	8.2	12.1	9.2; 9.9	.16; .09
Stationery office supplies	26.4	14.1	10.1	10.8	.19
Wallpaper	29.9	15.1	6.0	14.8	.20
Farm products (raw materials)	4.0	1.5	9.5	------	------
Automotive	22.6	13.2	6.7	------	------
Motor vehicles	15.2	8.1	17.8	7.8	.15
Automotive equipment, tires-tubes	24.4	14.4	5.8	10.5	.26

See footnotes at end of table.

Table 10.—*Merchant Wholesale Trade Operating Ratios: 1954—United States, by Type of Operation and Kind of Business*—Con.

Type of operation and kind of business	Operating expenses (including payroll) as percent of sales	Payroll expense as percent of sales	Sales—stocks ratios [1]	Year-end receivables as percent of sales	Bad-debt loss as percent of sales
Merchant wholesalers, total—Continued					
Electrical, electronics, appliance	14. 0	7. 8	8. 7	------	------
Electrical apparatus, supplies	13. 6	7. 8	8. 6	11. 4	0. 19
Electrical appliance, radio, TV	13. 1	7. 1	9. 3	10. 6	. 22
Electronic parts, equipment	20. 4	11. 1	7. 2	10. 1	. 37
Hardware, plumbing-heating goods	17. 2	9. 9	6. 1	------	------
Hardware	18. 3	11. 0	5. 5	11. 0	. 16
Plumbing-heating equipment, supplies	16. 3	9. 0	6. 7	11. 7	. 33
Lumber, construction materials	16. 1	8. 4	15. 6	------	------
Lumber, millwork	10. 7	5. 7	15. 0	9. 4	. 12
Construction materials	23. 6	12. 1	16. 4	10. 6	. 23
Machinery, equipment, supplies	20. 2	11. 0	7. 5	------	------
Air conditioning, commercial refrigeration equipment	23. 7	13. 1	8. 2	11. 9	. 29
Commercial machines, equipment	25. 3	13. 5	8. 6	14. 4	. 28
Construction machinery, equipment	19. 2	10. 7	5. 1	15. 2	. 29
Farm-garden machinery, equipment	16. 8	8. 6	7. 0	7. 9	. 18
Industrial machinery, equipment	15. 8	8. 0	9. 3	12. 3	. 14
Industrial materials, supplies	20. 0	11. 5	7. 7	9. 2	. 16
Professional equipment, supplies	26. 1	15. 0	6. 9	13. 2	. 14
Service establishment supply houses	23. 5	12. 2	8. 6	12. 3	. 27
Transportation equipment	23. 9	12. 5	7. 9	9. 6	. 15
Metals, metalwork (except scrap)	14. 5	7. 9	7. 1	------	------
Iron, steel and products	18. 5	10. 2	5. 6	9. 7	. 17
Nonferrous metals	7. 2	3. 6	14. 3	8. 0	. 06
Scrap, waste materials	17. 8	9. 3	13. 3	------	------
Iron, steel scrap	17. 4	9. 1	11. 9	8. 6	. 07
Waste materials	18. 2	9. 5	15. 1	6. 8	. 09
Other merchant wholesalers	12. 2	6. 2	12. 4	------	------
Amusement, sporting goods	17. 8	9. 2	8. 4	12. 7	. 22
Book, magazine, newspaper	19. 6	11. 9	14. 6	7. 4	. 08
Coal	8. 0	3. 9	21. 6	11. 6	(2)
Farm supplies	10. 8	5. 3	10. 6	5. 3	. 10
Jewelry	17. 7	9. 2	5. 6	18. 9	. 27
Petroleum products	9. 0	4. 0	32. 1	7. 3	. 07
Flower, bulb, plant	24. 1	12. 8	17. 7	12. 8	. 30
Gift, art goods, greeting cards; Miscellaneous products, merchant wholesalers (less musical instruments, sheet music)	9. 7	4. 9	14. 0	------	------

[1] Annual sales divided by year-end inventories at cost.

[2] Less than 0.01 percent.

Internal Revenue Service

The Internal Revenue Service of the U.S. Treasury Department has, since 1916, published annual reports based on income tax returns. Separate reports under the general title "Statistics of Income" summarize data tabulated from tax returns filed for individuals, corporations, partnerships, sole proprietorships, farmers' cooperatives, fiduciaries, estates, and gifts. These reports, readily available from the U.S. Government Printing Office, are widely used by many business analysts (see p. 66 for complete titles and descriptions of these publications).

In addition to these published reports, a *Source Book* consisting of volumes of unpublished corporate data is maintained in the Statistics Division of the Internal Revenue Service, and is available for research purposes. In the *Source Book*, tabulations of financial information from corporation income tax returns are broken down into more detailed classifications than in the published reports.

The following operating and financial ratios for 30 different types of trade activity, including 15 retail trades, 8 wholesale trades, and 7 service trades (tables 11–13), were computed from data in the *Source Book* for the tax years ended July 1955–June 1956. This presentation is designed to: (1) Make better known the availability of these unpublished Internal Revenue statistics and illustrate their usefulness in ratio analysis; (2) provide specific data for use by firms in the trades covered, in spite of the limitations which will be pointed out; (3) illustrate the values to be derived from ratio analysis by revealing the marked differences between profitable and unprofitable firms as shown in these tabulations; and (4) provide an opportunity to use the operating and financial ratios presented in previous sections of this book and further illustrate their usefulness.

These ratios were computed from the aggregate figures compiled from corporation income tax returns with balance sheets. Separate tabulations have been made for returns with net income and those with no net income, in order that a comparison may be made between profitable and unprofitable firms. The ratios are averages, determined simply by dividing the appropriate aggregates reported by the Internal Revenue Service. Finally, these average ratios are for all corporations filing tax returns with balance sheets within each trade classification, regardless of size of business. Figures are available by asset-size breakdowns—a most important consideration in ratio analysis—but cannot be presented here because such detail would constitute a separate study in itself.

Inasmuch as the income tax forms are designed for the administration of tax laws, there are obvious limitations in the use of these data for other purposes. Lack of uniformity in the classification of information supplied on the returns must be considered. For ex-

ample, on the corporation income tax return "Salaries and Wages" may be reported in the schedules of cost of goods sold and cost of operations, as well as in the section for deductions. If a firm inappropriately lists some employee wages in the cost-of-goods-sold schedule, the error affects not only the deductions and cost of goods sold but also gross margin, inventory turnover, and other ratios determined from these items.

Certain assumptions were necessary in order to determine some of the financial ratios shown in tables 11–13. The important ones involved the estimation of current assets and current liabilities. In determining total current assets, for example, the problem of treatment of "Other Investments" was solved by assuming that this item consists primarily of investments in subsidiaries and other companies, and it is therefore treated as noncurrent.

In the determination of current liabilities, the question arose as to the handling of "Other Liabilities." Reported in this category are deferred and suspense items, dividends payable, funds held in trust, borrowed securities, outstanding coupons and certificates, and overdrafts. Because of the mixed nature of this classification, and because it is impossible to determine which of the items included predominate, the entire classification has been designated as current.

This conservative treatment in the computation of both current assets and current liabilities should be kept in mind in the review of the tables which follow. Additional explanatory notes follow the tables.

The major points revealed by the computed operating and financial ratios for the 30 wholesale, retail, and service trades are summarized. Several observations seem especially worthy of note. Differences between profitable and unprofitable operations were, of course, to be expected. The magnitude of the differences, however, is most impressive, and illustrates graphically the insight into operating problems of a business that can be gained through use of ratios. The significance of the sharp contrast between the two series shown for each trade is clear.

A second observation is that the ratios seem to indicate that many of the unprofitable firms are not merely experiencing difficulties in one aspect or area of their business operation but rather are in general distress that is reflected throughout their entire operating performance. If averages for all unprofitable firms show lower gross profit margins than do averages for profitable businesses; if the unprofitable firms show operating expenses that are generally higher in relation to sales; and if at the same time, their net working capital is inadequate, their debt position unsatisfactory, and their investment in fixed assets excessive; then it is only logical to conclude that there are many individual firms reporting the same type of situation that the averages portray. And these firms are in serious trouble.

Finally, the summary confirms the frequently voiced contention that lack of experience and of capital together account for the vast majority of unprofitable business ventures. This is borne out by almost every point of comparison with profitable firms.

Summary of Findings

1. The average size of profitable firms was far greater than that of unprofitable firms, in all trades covered.

2. Gross profit margins among unprofitable firms were lower for most of the retail and service trades, and quite substantially lower in some instances. Average margins among profit losers in wholesale trades were lower in five of the eight trades reported.

3. The reported operating expense items were generally higher for unprofitable firms, often substantially so.

4. The current ratios of profitable and unprofitable firms were substantially different. Among profit losers, only wholesalers of farm products (raw materials) had a current ratio that approached the average for profitable firms. In 10 of the 30 trades covered, the current ratios for unprofitable firms were less than 100 percent; in other words, the averages computed for these trades indicated a negative net working capital position.

5. The disposition of current assets was not so consistently different between profitable and unprofitable firms as were some of the other ratios. However, some general observations can be made. In the retail and service trades covered, cash constituted a lower, often substantially lower, proportion of total current assets among the profit losers than among the profit makers. Inventories, on the other hand, made up a larger part of current assets among unprofitable firms in 13 of the 15 retail trades and in 6 of the 8 wholesale trades included in this study.

6. Sales-to-net-working-capital ratios were considerably larger for profit losers than for profit makers. (As previously stated, many trades showed a negative working capital position.) These ratios, along with others, particularly the debt-to-net-worth ratios, are evidence of undercapitalization in the unprofitable businesses.

7. Inventory turnover rates among firms reporting no net income were lower in 5 of the 8 wholesale trade classifications and in 12 of the 15 retail categories.

8. Ratios of current and total debt to net worth showed tremendous differences between profitable and unprofitable firms. These ratios were 1.6 to nearly 12 times greater for unprofitable firms in the retail trades, from 1.8 to 6 times greater for unprofitable firms in services, and from 1.6 to 2.4 times greater for profit losers in the wholesale trades. The only exception to these observations was found among

wholesalers of farm products. Here again is impressive testimony to the undercapitalization of the firms failing to show a profit on their operations.

9. The average ratio of fixed assets to net worth was also substantially higher among unprofitable firms. Excessive investment in fixed assets would seem to be an important factor for many of the firms experiencing financial difficulties.

10. The profit ratios speak for themselves and need no further elaboration.

TABLE 11.—*Corporation Operating and Financial Ratios, by Retail Trade Groups, 1955—Comparisons of Profitable and Unprofitable Firms*

[Derived from Internal Revenue Source Book data—returns with balance sheets]

	Food stores		Department stores		Mail-order houses		Variety stores		Apparel and accessories stores	
	With net income	With no net income	With net income	With no net income	With net income	With no net income	With net income	With no net income	With net income	With no net income
Number of returns	6, 854	4, 062	2, 238	504	286	470	766	330	11, 681	6, 838
Average sales per reporting firm (000)	$3, 054	$282	$6, 295	$852	$1, 493	$141	$3, 465	$213	$450	$151
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Total sales and receipts from operations	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Cost of goods sold (including cost of operations)	80. 6	79. 2	65. 4	68. 0	63. 2	74. 3	61. 4	68. 2	64. 4	65. 6
Gross profit	19. 4	20. 8	34. 6	32. 0	36. 8	25. 7	38. 6	31. 8	35. 6	34. 4
Selected deductions:										
Compensation of officers	. 5	2. 0	. 8	1. 7	1. 0	1. 8	. 4	2. 4	2. 6	3. 9
Rent	. 9	1. 5	1. 6	3. 3	. 5	1. 2	4. 6	4. 5	4. 9	6. 6
Repairs	. 3	. 5	. 4	. 4	. 2	. 2	. 4	. 4	. 3	. 3
Bad debts	(*)	. 1	. 2	. 5	. 7	. 1	(*)	. 2	. 3	. 3
Interest paid	. 1	. 3	. 3	. 6	. 5	. 4	. 2	. 2	. 2	. 4
Taxes paid	. 7	. 9	1. 5	1. 6	. 7	. 8	1. 5	1. 4	1. 2	1. 2
Depreciation and amortization	. 8	1. 5	1. 0	1. 2	. 4	. 6	1. 3	1. 4	1. 1	1. 4
Advertising	. 7	1. 0	2. 7	4. 2	8. 3	10. 5	. 6	2. 0	2. 5	2. 8
Compiled net profit	2. 2	−2. 0	6. 5	−2. 9	3. 0	−9. 5	6. 8	−1. 6	3. 8	−4. 0

Current assets to current debt	185. 2	85. 8	307. 8	209. 1	194. 4	93. 0	334. 6	109. 2	250. 9	169. 9
Distribution of current assets (percent each is of total current assets):										
Cash	28. 2	17. 8	12. 9	8. 6	11. 6	27. 0	24. 8	8. 3	16. 4	12. 4
Net receivables	17. 6	31. 0	39. 7	43. 8	58. 5	13. 6	5. 0	30. 2	30. 5	26. 8
Inventories	48. 8	46. 7	39. 6	44. 9	24. 8	45. 2	61. 8	60. 4	48. 3	58. 7
Other current assets	5. 4	4. 5	7. 8	2. 7	5. 1	14. 2	8. 4	1. 1	4. 8	2. 1
Total current assets	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Sales to net working capital	1, 926. 8	--------	382. 6	452. 6	488. 3	--------	509. 7	3, 524. 8	474. 4	648. 2
Inventory turnover rate (times)	14. 6	15. 2	4. 3	3. 6	6. 0	6. 5	3. 5	3. 3	3. 8	3. 0
Inventory to net working capital	106. 0	--------	58. 7	86. 1	51. 2	--------	88. 2	719. 0	80. 3	142. 8
Current liabilities to net worth	55. 9	171. 3	34. 5	64. 2	86. 7	1, 017. 4	20. 3	267. 4	47. 3	99. 7
Total liabilities to net worth	75. 6	240. 2	47. 1	91. 8	99. 6	1, 165. 4	34. 1	289. 9	59. 5	120. 2
Fixed assets to net worth	55. 3	156. 4	28. 3	40. 6	12. 9	179. 6	53. 6	77. 5	23. 7	33. 9
Net profit to net worth	20. 7	−26. 6	18. 0	−9. 8	12. 0	−395. 9	16. 6	−13. 7	13. 0	−18. 6
Net profit to total assets	11. 8	−7. 8	12. 2	−5. 1	6. 0	−31. 3	12. 4	−3. 5	8. 2	−8. 5

*Less than 0.05 percent.

See notes on p. 54.

TABLE 11.—*Corporation Operating and Financial Ratios, by Retail Trade Groups, 1955—Comparisons of Profitable and Unprofitable Firms*—Continued

	Furniture and home-furnishings stores		Automobile and truck dealers		Auto parts, accessories, tires, batteries stores		Filling stations		Drug stores	
	With net income	With no net income	With net income	With no net income	With net income	With no net income	With net income	With no net income	With net income	With no net income
Number of returns	8, 917	4, 842	12, 942	7, 410	1, 978	775	2, 222	1, 222	4, 249	1, 653
Average sales per reporting firm (000)	$345	$156	$1, 565	$629	$532	$162	$363	$118	$393	$143
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Total sales and receipts from operations	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Cost of goods sold (including cost of operations)	64. 6	65. 6	87. 3	88. 5	73. 1	71. 9	76. 1	76. 5	67. 6	69. 6
Gross profit	35. 4	34. 4	12. 7	11. 5	26. 9	28. 1	23. 9	23. 5	32. 4	30. 4
Selected deductions:										
Compensation of officers	4. 0	4. 4	1. 4	1. 5	2. 6	3. 8	2. 0	3. 8	3. 1	4. 5
Rent	2. 4	3. 5	. 5	. 8	1. 5	2. 4	1. 7	3. 1	3. 1	4. 3
Repairs	. 3	. 3	. 1	. 1	. 3	. 3	. 3	. 4	. 4	. 4
Bad debts	. 8	. 8	. 1	. 2	. 4	1. 0	. 1	. 3	(*)	. 1
Interest paid	. 4	. 8	. 2	. 4	. 5	. 8	. 2	. 4	. 2	. 3
Taxes paid	1. 2	1. 2	. 4	. 5	. 9	1. 2	2. 7	1. 9	1. 2	1. 6
Depreciation and amortization	. 8	1. 0	. 4	. 5	. 9	1. 6	1. 2	1. 5	1. 2	1. 3
Advertising	3. 2	4. 1	1. 1	1. 2	1. 3	1. 5	1. 0	. 8	1. 2	. 9
Compiled net profit	3. 6	−3. 9	1. 6	−1. 5	4. 0	−4. 4	3. 3	−2. 8	3. 7	−2. 4

Current assets to current debt	215. 5	159. 7	195. 6	158. 2	234. 0	123. 0	151. 8	92. 2	237. 4	151. 0
Distribution of current assets (percent each is of total current assets):										
Cash	8. 7	6. 8	14. 2	9. 7	9. 9	6. 0	31. 2	19. 4	19. 6	12. 2
Net receivables	56. 2	51. 3	29. 7	24. 6	41. 9	34. 7	37. 6	45. 4	15. 6	12. 7
Inventories	33. 2	40. 4	54. 1	63. 6	46. 5	56. 7	28. 3	32. 5	62. 0	73. 5
Other current assets	1. 9	1. 5	2. 0	2. 1	1. 7	2. 6	2. 9	2. 7	2. 8	1. 6
Total current assets	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Sales to net working capital	372. 9	524. 1	1, 402. 8	1, 614. 7	469. 8	1, 678. 9	1, 993. 8		670. 2	1, 281. 0
Inventory turnover rate (times)	3. 9	3. 2	11. 0	8. 2	4. 2	3. 9	18. 2	17. 1	4. 2	4. 1
Inventory to net working capital	61. 9	108. 1	110. 7	173. 0	81. 2	303. 5	82. 9		107. 1	217. 6
Current liabilities to net worth	71. 5	125. 9	65. 9	104. 6	69. 4	188. 7	58. 0	124. 2	46. 6	119. 5
Total liabilities to net worth	82. 9	153. 3	76. 4	126. 5	98. 7	235. 8	77. 8	177. 1	57. 0	166. 0
Fixed assets to net worth	16. 8	24. 8	32. 4	42. 8	27. 1	76. 0	70. 7	145. 5	33. 6	64. 3
Net profit to net worth	11. 8	−16. 2	14. 2	−14. 9	18. 0	−32. 5	19. 9	−24. 1	15. 9	−18. 6
Net profit to total assets	6. 5	−6. 4	8. 0	−6. 6	9. 0	−9. 7	11. 2	−8. 7	10. 2	−7. 0

*Less than 0.05 percent.

See notes on p. 54.

TABLE 11.—*Corporation Operating and Financial Ratios, by Retail Trade Groups, 1955—Comparisons of Profitable and Unprofitable Firms*—Continued

	Eating and drinking places		Lumber and building materials dealers		Hardware and farm equipment dealers		Liquor stores		Jewelry stores	
	With net income	With no net income	With net income	With no net income	With net income	With no net income	With net income	With no net income	With net income	With no net income
Number of returns	8, 315	8, 924	7, 838	2, 456	4, 093	2, 529	1, 916	1, 208	1, 908	1, 012
Average sales per reporting firm (000)	$254	$93	$517	$157	$284	$111	$202	$109	$256	$105
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Total sales and receipts from operations	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Cost of goods sold (including cost of operations)	51. 3	50. 9	77. 5	77. 4	77. 6	81. 4	81. 0	80. 9	54. 1	58. 5
Gross profit	48. 7	49. 1	22. 5	22. 6	22. 4	18. 6	19. 0	19. 1	45. 9	41. 5
Selected deductions:										
Compensation of officers	3. 6	5. 1	3. 0	4. 1	3. 5	4. 6	4. 0	5. 0	4. 7	5. 9
Rent	4. 1	5. 3	. 4	1. 0	1. 1	1. 7	1. 8	2. 4	4. 0	5. 6
Repairs	1. 0	1. 2	. 3	. 4	. 2	. 2	. 2	. 2	. 3	. 4
Bad debts	(*)	. 1	. 4	. 5	. 4	. 4	(*)	. 1	1. 6	1. 2
Interest paid	. 3	. 5	. 4	. 5	. 4	. 6	. 2	. 2	. 4	. 7
Taxes paid	2. 1	2. 6	1. 0	1. 3	1. 1	1. 1	1. 1	1. 6	2. 0	2. 6
Depreciation and amortization	2. 4	3. 3	1. 0	1. 6	. 9	1. 0	. 7	. 9	. 9	1. 2
Advertising	. 9	. 9	. 7	1. 1	. 8	. 9	. 5	. 5	4. 4	5. 0
Compiled net profit	4. 2	−4. 1	3. 8	−3. 4	3. 2	−3. 9	2. 0	−2. 1	5. 7	−4. 7

Current assets to current debt	119.9	48.6	272.2	187.3	281.7	205.2	178.0	119.9	212.7	176.5
Distribution of current assets (percent each is to total current assets):										
Cash	43.9	28.3	9.5	6.5	9.5	6.3	20.2	16.8	9.7	5.4
Net receivables	25.5	26.2	44.7	39.6	30.7	23.6	10.4	9.5	47.0	39.6
Inventories	20.8	34.0	44.3	52.5	58.6	69.1	66.5	71.3	41.8	53.5
Other current assets	9.8	11.5	1.5	1.4	1.2	1.0	2.9	2.4	1.5	1.5
Total current assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sales to net working capital	4,403.4	--------	426.2	531.4	368.8	400.5	1,023.1	2,909.8	268.7	321.2
Inventory turnover rate (times)	17.8	15.5	4.7	3.6	3.1	2.4	5.5	5.5	1.8	1.5
Inventory to net working capital	125.5	--------	70.0	112.7	90.9	134.7	151.6	430.4	79.0	123.6
Current liabilities to net worth	56.5	225.0	43.3	76.1	49.2	81.1	78.4	167.6	68.2	116.1
Total liabilities to net worth	83.4	347.0	51.7	95.8	60.3	104.4	92.5	195.3	75.6	145.7
Fixed assets to net worth	91.2	270.4	23.9	41.3	21.9	29.1	29.7	52.7	10.9	27.2
Net profit to net worth	21.2	−48.2	12.3	−12.2	10.6	−13.5	12.5	−20.0	12.6	−14.2
Net profit to total assets	11.6	−10.8	8.1	−6.2	6.3	−6.6	6.5	−6.8	7.2	−5.8

*Less than 0.05 percent.

See notes on p. 54.

TABLE 12.—*Corporation Operating and Financial Ratios, by Service Trade Groups, 1955—Comparisons of Profitable and Unprofitable Firms*

[Derived from Internal Revenue Source Book data—returns with balance sheets]

	Hotels and other lodging places		Laundries, cleaners and dyers		Photographic studios	
	With net income	With no net income	With net income	With no net income	With net income	With no net income
Number of returns	3, 566	3, 559	4, 325	2, 930	734	503
Average sales per reporting firm (000)	$357	$129	$278	$110	$122	$71
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Total sales and receipts from operations	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Cost of operations (including cost of goods sold)	43. 9	47. 2	60. 1	61. 9	52. 1	62. 2
Receipts in excess of "cost of operations"	56. 1	52. 8	39. 9	38. 1	47. 9	37. 8
Selected deductions:						
Compensation of officers	2. 3	2. 6	4. 9	6. 3	7. 9	8. 2
Rent	5. 7	6. 4	1. 9	3. 2	4. 3	5. 7
Repairs	3. 6	3. 7	1. 2	1. 5	. 6	. 8
Bad debts	. 2	. 4	. 1	. 1	. 3	. 1
Interest paid	2. 2	3. 8	. 4	. 8	. 2	. 4
Taxes paid	5. 0	5. 7	2. 4	2. 6	1. 6	1. 6
Depreciation and amortization	6. 9	9. 0	3. 9	4. 4	2. 4	2. 5
Advertising	1. 9	2. 3	1. 2	1. 2	1. 9	2. 2
Compiled net profit	7. 7	—7. 0	5. 2	—4. 3	5. 0	—5. 9

Current assets to current debt	101. 5	35. 3	148. 0	68. 3	202. 4	72. 0
Distribution of current assets (percent each is to total current assets):						
Cash	40. 4	33. 8	31. 4	19. 1	33. 3	21. 8
Net receivables	37. 9	32. 6	38. 5	51. 0	46. 7	50. 7
Inventories	8. 0	12. 8	20. 8	17. 4	15. 1	24. 5
Other current assets	13. 7	20. 8	9. 3	12. 5	4. 9	3. 0
Total current assets	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Sales to net working capital	27, 057. 0	----------	1, 618. 2	----------	762. 8	----------
Current liabilities to net worth	40. 9	186. 5	37. 7	110. 9	43. 8	263. 7
Total liabilities to net worth	115. 9	488. 5	55. 7	173. 7	59. 8	302. 6
Fixed assets to net worth	146. 6	482. 9	78. 3	160. 0	36. 1	112. 7
Net profit to net worth	14. 0	−28. 1	15. 3	−24. 8	17. 2	−66. 4
Net profit to total assets	6. 5	−4. 8	9. 8	−9. 0	10. 8	−16. 5

See notes on p. 54.

TABLE 12.—*Corporation Operating and Financial Ratios, by Service Trade Groups, 1955—Comparisons of Profitable and Unprofitable Firms*—Continued

	Advertising agencies		Auto repair services and garages		Motion picture theaters		Amusements, motion picture theaters	
	With net income	With no net income	With net income	With no net income	With net income	With no net income	With net income	With no net income
Number of returns	2, 414	1, 045	4, 435	2, 294	2, 252	1, 875	2, 869	3, 093
Average sales per reporting firm (000)	$877	$175	$127	$71	$354	$94	$243	$65
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Total sales and receipts from operations	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Cost of operations (including cost of goods sold)	68. 0	74. 9	49. 2	51. 4	61. 4	60. 5	54. 8	55. 3
Receipts in excess of "cost of operations"	32. 0	25. 1	50. 8	48. 6	38. 6	39. 5	45. 2	44. 7
Selected deductions:								
Compensation of officers	5. 1	5. 8	5. 6	6. 2	2. 2	3. 5	4. 4	4. 2
Rent	1. 4	1. 7	7. 2	8. 4	7. 3	9. 8	3. 6	6. 8
Repairs	. 2	. 1	1. 6	1. 5	1. 8	2. 1	1. 3	1. 7
Bad debts	. 1	. 2	. 2	. 3	. 2	. 2	. 1	. 7
Interest paid	. 1	. 3	1. 6	2. 3	1. 2	1. 5	. 7	2. 0
Taxes paid	. 7	. 6	3. 1	2. 5	3. 7	3. 6	4. 9	5. 1
Depreciation and amortization	. 8	. 7	14. 5	21. 0	6. 3	8. 2	5. 1	8. 0
Advertising	. 3	5. 0	1. 0	1. 1	5. 5	6. 3	2. 6	2. 9
Compiled net profit	5. 2	−4. 1	7. 6	−6. 0	7. 9	−5. 9	11. 7	−10. 7

Current assets to current debt	150. 8	115. 0	87. 4	53. 0	167. 5	60. 0	158. 2	55. 6
Distribution of current assets (percent each is to total current assets):								
Cash	31. 1	24. 3	32. 0	22. 6	35. 9	39. 9	54. 5	52. 0
Net receivables	57. 8	58. 9	50. 0	49. 5	45. 4	46. 5	20. 0	31. 7
Inventories	4. 8	4. 5	11. 0	18. 5	4. 2	1. 8	4. 5	6. 3
Other current assets	6. 3	12. 3	7. 0	9. 4	14. 5	11. 8	21. 0	10. 0
Total current assets	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Sales to net working capital	1, 145. 1	3, 603. 5	--------	--------	663. 9	--------	996. 4	--------
Current liabilities to net worth	104. 3	188. 5	75. 9	172. 8	24. 4	96. 3	34. 1	144. 4
Total liabilities to net worth	110. 4	210. 6	127. 9	326. 9	56. 6	173. 9	59. 6	319. 4
Fixed assets to net worth	27. 1	57. 3	145. 4	304. 9	65. 2	186. 0	83. 5	275. 6
Net profit to net worth	31. 5	−42. 4	19. 0	−19. 7	9. 5	−15. 8	24. 4	−43. 3
Net profit to total assets	15. 0	−13. 6	8. 3	−4. 6	6. 1	−5. 8	15. 3	−10. 3

See notes on p. 54.

TABLE 13.—*Corporation Operating and Financial Ratios, by Wholesale Trade Groups, 1955—Comparisons of Profitable Firms with Unprofitable Firms*

[Derived from Internal Revenue Source Book data—returns with balance sheets]

	Food		Alcoholic beverages		Apparel and dry goods		Chemicals, paints, drugs	
	With net income	With no net income	With net income	With no net income	With net income	With no net income	With net income	With no net income
Number of returns	6, 536	2, 761	1, 696	704	3, 841	1, 977	2, 251	929
Average sales per reporting firm (000)	$2, 238	$885	$3, 126	$608	$1, 089	$383	$1, 810	$234
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Total sales and receipts from operations	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Cost of goods sold (including cost of operations)	89. 6	91. 1	86. 0	84. 2	84. 7	87. 6	80. 5	79. 8
Gross profit	10. 4	8. 9	14. 0	15. 8	15. 3	12. 4	19. 5	20. 2
Selected deductions:								
Compensation of officers	. 9	1. 0	. 8	1. 4	2. 1	2. 4	1. 2	2. 2
Rent	. 3	. 3	. 2	. 5	. 6	. 9	. 3	. 7
Repairs	. 2	. 2	. 1	. 1	(*)	(*)	. 1	. 1
Bad debts	. 1	. 1	. 1	. 2	. 2	. 3	. 1	. 2
Interest paid	. 2	. 2	. 2	. 4	. 4	. 5	. 2	. 5
Taxes paid	. 5	. 4	3. 1	2. 9	. 5	. 6	. 5	. 9
Depreciation and amortization	. 4	. 6	. 3	. 6	. 2	. 3	. 4	. 5
Advertising	. 5	. 4	1. 3	. 6	. 4	. 4	1. 4	3. 1
Compiled net profit	1. 4	−1. 2	1. 6	−1. 7	2. 2	−2. 6	4. 4	−2. 6

Current assets to current debt	193.8	140.2	208.1	127.7	217.5	140.3	236.8	178.2
Distribution of current assets (percent each is of total current assets):								
Cash	13.6	9.4	8.0	10.4	9.7	8.9	14.4	10.8
Net receivables	38.0	39.6	56.2	44.3	44.7	37.9	41.1	37.1
Inventories	45.4	48.8	34.4	43.5	43.8	48.2	40.5	47.1
Other current assets	3.0	2.2	1.4	1.8	1.8	5.0	4.0	5.0
Total current assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sales to net working capital	1,474.4	2,652.4	763.1	2,054.1	557.6	1,152.7	682.1	832.3
Inventory turnover rate (times)	14.0	14.2	9.9	8.6	5.8	6.0	7.8	6.2
Inventory to net working capital	93.9	170.2	66.2	200.4	81.1	167.8	70.2	107.3
Current liabilities to net worth	71.6	135.9	88.0	210.8	75.7	158.2	58.4	91.3
Total liabilities to net worth	85.1	170.8	112.0	235.3	94.3	168.2	70.6	141.8
Fixed assets to net worth	29.7	59.0	11.1	40.0	6.6	11.0	15.4	36.1
Net profit to net worth	14.1	−17.9	11.4	−21.0	10.9	−19.6	24.0	−15.7
Net profit to total assets	7.6	−6.6	5.4	−6.2	5.6	−7.3	14.1	−6.5

*Less than 0.05 percent.

See notes on p. 54.

TABLE 13.—*Corporation Operating and Financial Ratios, by Wholesale Trade Groups, 1955—Comparisons of Profitable Firms with Unprofitable Firms*—Continued

	Hardware, electrical goods, plumbing and heating equipment		Lumber, millwork, and construction materials		Machinery and equipment		Farm products (raw materials)	
	With net income	With no net income	With net income	With no net income	With net income	With no net income	With net income	With no net income
Number of returns	6, 499	1, 678	4, 277	1, 071	5, 801	1, 741	2, 353	821
Average sales per reporting firm (000)	$1, 559	$377	$1, 313	$327	$1, 050	$206	$2, 724	$898
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Total sales and receipts from operations	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Cost of goods sold (including cost of operations)	83. 0	83. 6	84. 2	84. 6	80. 1	78. 6	93. 1	95. 3
Gross profit	17. 0	16. 4	15. 8	15. 4	19. 9	21. 4	6. 9	4. 7
Selected deductions:								
Compensation of officers	1. 6	2. 4	1. 7	2. 6	2. 2	4. 4	. 5	. 8
Rent	. 5	. 9	. 4	. 7	. 5	1. 2	. 2	. 2
Repairs	. 1	. 1	. 4	. 5	. 1	. 2	. 2	. 1
Bad debts	. 3	. 4	. 2	. 5	. 3	. 4	(*)	. 1
Interest paid	. 2	. 4	. 3	. 5	. 3	. 6	. 4	. 5
Taxes paid	. 6	. 7	. 6	. 7	. 6	. 9	. 3	. 3
Depreciation and amortization	. 4	. 5	1. 1	1. 9	. 7	1. 3	. 6	. 6
Advertising	. 6	1. 3	. 3	. 3	. 5	. 9	. 1	(*)
Compiled net profit	3. 1	−3. 1	3. 0	−3. 0	4. 3	−5. 4	1. 7	−1. 5

Current assets to current debt	205. 3	160. 0	203. 0	128. 1	208. 3	148. 3	129. 7	141. 5
Distribution of current assets (percent each is of total current assets):								
Cash	9. 2	9. 3	12. 1	8. 7	9. 9	12. 6	9. 4	10. 3
Net receivables	42. 5	39. 8	53. 1	54. 5	49. 9	38. 3	28. 8	27. 8
Inventories	46. 8	45. 3	32. 0	33. 1	38. 1	44. 5	60. 7	60. 7
Other current assets	1. 5	5. 6	2. 8	3. 7	2. 1	4. 6	1. 1	1. 2
Total current assets	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Sales to net working capital	641. 1	674. 8	875. 8	1, 925. 2	553. 7	765. 5	1, 586. 6	1, 531. 2
Inventory turnover rate (times)	5. 8	4. 7	11. 3	10. 4	6. 0	4. 4	5. 6	7. 0
Inventory to net working capital	91. 3	120. 9	63. 1	150. 9	73. 2	136. 7	265. 2	206. 8
Current liabilities to net worth	78. 3	142. 6	61. 2	137. 6	74. 5	119. 1	158. 7	144. 3
Total liabilities to net worth	86. 3	166. 6	71. 0	170. 6	85. 0	140. 4	176. 9	173. 7
Fixed assets to net worth	16. 0	22. 2	32. 7	72. 4	17. 9	39. 9	44. 5	47. 4
Net profit to net worth	16. 5	−18. 0	17. 0	−22. 8	19. 5	−24. 2	12. 4	−13. 8
Net profit to total assets	8. 9	−6. 8	9. 9	−8. 4	10. 6	−10. 0	4. 5	−5. 0

*Less than 0.05 percent.

See notes on p. 54.

Explanatory Notes for Tables 11, 12, and 13

Total sales and receipts is the total of "gross sales" and "gross receipts from operations" as reported in corporation income tax returns, the latter representing amounts received from transactions in which inventories were not an income-determining factor.

Cost of goods sold and of operations is the total of these items as reported in corporation income tax returns. Cost of goods sold was reported for transactions in which inventories were an income-determining factor. Cost of operations was reported for all other transactions.

Taxes paid excludes: (1) Federal income and excess profits taxes, (2) estate, inheritance, legacy, succession, and gift taxes, (3) income and profits taxes paid to a foreign country or a possession of the United States if any portion was claimed as a tax credit, (4) taxes assessed against certain local benefits, (5) Federal taxes paid on tax-free covenant bonds, and (6) unidentifiable amounts of taxes reported in "cost of goods sold" and "cost of operations."

The *profit ratio* shown is that of total profits to total receipts.

Current assets include cash, notes and accounts receivable less reserves for bad debts, inventories, prepaid expenses and supplies, and investments in government obligations. *Current liabilities* include accounts payable; bonds, notes, mortgages payable (maturity less than 1 year); reserves for estimated expenses; prepaid income; accrued expenses; and other liabilities.

Inventory turnover rate was determined by dividing "cost of goods sold" by year-end inventories.

Fixed assets include depreciable and depletable assets less reserves, land, and other investments.

CHAPTER 5

OTHER MANAGEMENT TOOLS

The use of operating and financial ratios as a management tool in the analysis of business operations and profit evaluation has been treated with some detail because this type of financial analysis is basic in the appraisal of operating results. Additional analytical methods, related but more complex in their development of useful detail, are also worthy of investigation by businessmen and analysts. These are mentioned briefly in the following paragraphs.

Distribution Cost Analysis

It is becoming more widely appreciated that the ordinary financial statements are not sufficient to answer many of the important questions the business proprietor or manager must consider. For example, most businesses engaged in distributing goods of some sort handle numerous items or lines, sell to many different customers in lots of varying sizes, and possibly have a number of sales territories among which their sales effort is divided. How does the businessman determine which of his products are the most profitable, which are the least profitable, which are unprofitable? How does he discover which customers are his best ones? How does he measure the effectiveness of his operations in his various sales territories?

The fact is that he can do little more than guess at the answers to these questions unless he makes some special effort beyond the usual accounting practices followed by many business firms. His ordinary records in their original form are insufficient for the analysis necessary to provide the answers.

The analysis called for requires a special accounting treatment for selling or marketing costs. It means a different approach in the treatment of the operating expenses of the business. Instead of the traditional classification of expenses by natural divisions (i.e., rent, payroll, depreciation, etc.), it means thinking in terms of functions or jobs performed, such as delivery, real estate costs, sales promotion, direct selling, control and accounting, etc. The natural divisions of expenses are distributed among the appropriate functions, and from this point it becomes a matter of allocating the functional groupings

of expenses to determine profitability by product line, type of customer, sales territory, or such other segment of sales as may be desired.

This type of analysis—distribution cost analysis—requires a good deal of thought and work, and is still a relatively new concept to many businessmen. But more and more firms are becoming aware that only through such techniques are many of their vital questions answered to satisfaction. There is the growing realization that distribution cost accounting is as necessary to proper analysis of selling costs as factory cost accounting is to analysis of production costs.

Merchandise Management Accounting

An excellent example of scientific merchandising made possible through distribution cost analysis is currently being witnessed by retailers. Known as merchandise management accounting, this concept provides retailers of departmentized stores with a practical means of determining profitability by product line.

Merchandise management accounting, however, is not merely an accounting technique enabling management to better evaluate operating performances of merchandise items. It provides a valuable merchandising tool as well, a working tool for use in the daily conduct of business. Its use enables management to develop guides for estimating the dollar profit and return on investment that can be expected from proposed transactions. Buyers are thereby equipped with a most valuable aid. Also, since the relationships of specific expense items to product lines can be identified, merchandise management accounting also serves an important role in clarifying responsibilities for certain classifications of expense. Profit planning and financial control gain an added meaning.

Break-Even Charts

Although not directly related to the types of analytical tools previously discussed, break-even charts provide an additional tool for analysis, especially in budget control and profit planning. They are useful aids in examining the effects of alternative courses of action on business profits. The charts are relatively simple to prepare, and their graphic presentation of a situation makes it more easily understood.

Basically, break-even charts involve the plotting of sales and expenses on a square. Expenses are broken down into variable and fixed expenses, or into those which vary directly with sales volume and those which remain fairly constant regardless of the level of sales. The point at which the total expense and sales lines intersect

is the break-even point, or the point where neither a profit nor a loss is realized.

The effect of proposed policies on expenses and profits can be readily observed once the chart has been prepared. For example, if it is known that sales volume can be increased to a certain level by an increase of a given number of dollars in labor costs, the effect on profits resulting from the change can be quickly shown. Countless questions of a similar nature are answered for management guidance in the formulation of policies.

CHAPTER 6

SOURCES OF OPERATING AND FINANCIAL DATA

The following sources regularly issue current data on operating ratios. Many commercial organizations, trade associations, publishers, and universities not listed frequently publish financial information of value to those interested in operating ratios and their use.

A comprehensive list of national trade associations may be found in *Directory of National Trade Associations*, available from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C., for 40¢ a copy. Copies are also available for reference at field offices of the Department of Commerce and at many large libraries.

For a complete list of trade papers and periodicals, the following guides are available for reference in many libraries: *N. W. Ayer & Son's Directory of Newspapers and Periodicals*, published by N. W. Ayer & Son, Washington Square, Philadelphia, Pa.; *Standard Rate and Data Service*, published by Standard Rate and Data Service, Inc., 1740 Ridge Avenue, Evanston, Ill.; and the *Market Data Book Number of Industrial Marketing*, published by Advertising Publications, Inc., 200 East Illinois Street, Chicago 11, Ill.

How To Use This List

The publications listed, or further information concerning them, should be requested from the publisher. Where no price is shown or where no statement of limited distribution appears in the annotation, single copies are presumably available upon request, except for a few items indicated by an asterisk (*) for which information regarding distribution was not available.

The number preceding each publication listed is for identification purposes only in connection with the finding guide, page 73, which facilitates location of sources with reference to particular trades or services. Trades represented by individual corporations reported by Moody's Industrials and Standard and Poor's Corporation Descriptions (items 13 and 15) are not indexed.

RETAIL AND SERVICE TRADES

Commercial Organizations

Accounting Corporation of America, 1929–39 First Avenue, San Diego 1, Calif.

1. **Mail-Me-Monday Barometer of Small Business.** Semiannual. $6 for Midyear Edition; $10 for Yearbook Edition; annual subscription (2 issues) $12.50. Sales indexes and trends, operating ratios, and typical financial statements for 51 basic small-business types.

Dun & Bradstreet, Inc., Advertising and Public Relations Department, 99 Church Street, New York 8, N.Y.

2. **Operating Ratios for 40 Lines of Retail Trade.** October 1957. Selected expense ratios, net profits, and inventory turnover. Data base varies 1950 to 1957. 4 pp.
3. **Cost of Doing Business Series.** Typical operating ratios for selected retail trades. National averages and groupings by sales volume, size of city, form of organization, type of shopping area, credit policy, merchandise specialty, and profit earned. Series to date includes the following:

Title	Data for—	Issued
Auto Accessory and Parts Stores	1955	1956
Bakeries	1955	1956
Bars and Taverns	1953	1954
Camera and Photographic Supply Stores	1954	1955
Candy, Nut, and Confectionery Stores	1955	1956
Children's and Infants' Wear Stores	1957	1959
Dry Goods and General Merchandise	1957	1959
Family Clothing Stores	1956	1957
Farm Supply Stores	1956	1957
Floor Coverings Stores	1954	1955
Florists	1953	1955
Gasoline Service Stations	1956	1957
Gift, Novelty, and Souvenir Stores	1957	1959
Grocery Stores	1952	1954
Grocery and Meat Stores	1950	1952
Jewelry Stores	1953	1955
Lumber Dealers	1955	1956
Meat Markets	1954	1955
Men's Furnishings Stores	1952	1954
Music Stores	1956	1958
Package Liquor Stores	1955	1956
Paint and Wallpaper Stores	1956	1958
Shoe Stores	1950	1952
Sporting Goods Stores	1953	1954
Women's Accessory and Specialty Stores	1954	1955
Women's Ready-to-Wear Stores	1953	1954

4. **14 Important Ratios in 72 Lines of Business.** Published annually in *Dun's Review and Modern Industry* (subscription $5 per year; 75¢ a copy). Financial ratios covering 36 divisions of manufacturing activity, 24 of wholesaling, and 12 of retailing. Median and lower and upper quartiles for the relationships reported.
5. **Current Trends In Terms of Sale.** Roy A. Foulke. 1959. Contains ratios described in item 4 above and text explaining trends in terms of sale.

Fertig, Arthur & Co., 1441 Broadway, New York 36, N.Y.

6. **Retail Advisory Bulletin Service.** Quarterly. $12.50 a year. Retail management counsel, especially for home-furnishings retailers extending credit. Annual furniture review. Statistics on sales and turnover, operating costs and other performance data.

Harris, Kerr, Forster & Co., 18 East 48th Street, New York 17, N.Y.

7. **Trends in the Hotel Business.** Annual. Available only to clients, contributing hotels, and members of recognized hotel associations. Balance sheet and income and expense ratios for transient, residential, resort, and motor hotels.

Horwath & Horwath, 41 East 42d Street, New York 17, N.Y.

8. **Hotel Operations.** Annual. Balance sheet and income and expense ratios for small and large transient and residential hotels.
9. **City Club and Country Club Operations.** Studies published annually in *The Horwath Hotel Accountant.* Separate reports on operating statistics for city clubs and country clubs, giving detailed departmental results.
10. **Operating Results of Restaurants.** Published in *The Horwath Hotel Accountant.* Operating ratios for table-service commercial restaurants by type of location, with additional breakdown for those selling food only and those selling both food and beverages.
11. **Highway Hotel Operating Results.** Published annually in Horwath Hotel Accountant. Operating ratios for highway hotels without restaurant facilities, and for those with facilities, both operated and leased.

Lilly, Eli & Co., Indianapolis 6, Ind.

12. **The Lilly Digest of Retail Drug-Store Income and Expense Statements.** Annual. Operating costs and ratios of individually owned retail drug stores, by sales size and city size groupings; analysis of prescription department operations; trends.

Moody's Investors Service, 99 Church Street, New York 7, N.Y.

13. **Moody's Industrials.** Annual with semiweekly news supplements. Year's subscription $96. Profit-and-loss and consolidated income accounts for leading corporations; 7-year record of comparative earnings and dividend payment per share, coverage for interest and fixed charges, net tangible and net current assets per $1,000 of debt, and net tangible assets per preferred and common share.

National Cash Register Company, Dayton 9, Ohio

14. **Expenses in Retail Businesses.** Published periodically. Operating expenses for over 40 lines of retail and service businesses.

Standard & Poor's Corp., 345 Hudson Street, New York 14, N.Y.

15. **Standard & Poor's Corp. Descriptions.** Published three times monthly. $158 for year's subscription. Descriptions, background information, financial data for major corporations; income, earnings, dividends, and balance sheet accounts. Comparisons with previous years.

Trade Associations

American Booksellers Association, 452 Fifth Avenue, New York 18, N.Y.

16. **A.B.A. Survey.*** Conducted periodically. Operating ratios for stores, by sales size.

American College of Apothecaries, Hamilton Court Hotel, 39th and Chestnut Streets, Philadelphia 4, Pa.

17. **Facts on the Operation of Prescription Pharmacies.** Annual. Operating costs of prescription pharmacies, comparisons to previous year.

American Institute of Laundering, Joliet, Ill.

18. **Operating Cost Percentages.** Annual. Operating ratios for laundries, by geographic divisions and sales size. Laundering, drycleaning, sales, distribution, and administrative costs in detail.

American Society of Association Executives, 1145 19th Street NW., Washington 6, D.C.

19. **Operating Ratio Report for Trade Associations, 1953.** $3.50. (Includes 1955 supplement.) Operating costs and ratios for trade associations, by type of industry, scope, size of disbursements, and number of members.

Carpet Institute, Inc., Empire State Building, New York 1, N.Y.

20. **Retail Carpet and Rug Operating Results.** Special study prepared for the Carpet Institute. Available from Dun & Bradstreet, Advertising and Public Relations Department, 99 Church Street, New York 8, N.Y. Operating data, by geographic region, store volume, city size, type of outlet.

Florida Lumber and Millwork Association, 2218 Edgewater Drive, Orlando, Fla.

21. **Florida Building Material Dealers Cost of Doing Business Survey.** Annual. Operating results of Florida retail lumber dealers, by type of legal entity and sales volume.

Florists Telegraph Delivery Association, 200 Lafayette Building, Detroit 26, Mich.

22. **FTD Profit and Expense Survey.** Published periodically in *FTD News.* Subscription $5. Operating ratios by sales volume groupings, gross profit analysis by type of sale, other data.

Guild of Prescription Opticians of America, Inc., 110 East 23d Street, New York 10, N.Y.

23. **Report of Operations for 1955.** Published periodically. For members only. Analysis of prescription opticians' operating results.

Kentucky Retail Lumber Dealers Association, Lebanon, Ky.

24. **Survey of Dealers' Operating Cost Experience.** Annual. Operating costs and ratios for member dealers, by sales size.

Michigan Retail Lumber Dealers Association, 1009 Bank of Lansing Building, Lansing 16, Mich.

25. **Average Operating Results of Reporting Members.** Annual. Available to members only. Operating ratios and other statistics on Michigan retail lumber dealers, by size of business.

Middle Atlantic Lumbermens Association, 1528 Walnut Street, Philadelphia 2, Pa.

26. **Survey of Operating Results.** Annual. Available to members. Operating data on retail lumber and building materials dealers in the Middle Atlantic region, by sales size.

Robert Morris Associates, Philadelphia National Bank Building, Philadelphia 7, Pa.

27. **Statement Studies.** Annual. Available to individuals, schools, businesses, and to financial institutions not eligible for membership. $10 per copy. Tear sheets of particular industries, $1 each. Balance sheet and operating statement average percentages to total resources and sales, and established comparative ratios for various lines of manufacturing, retail, wholesale, and service trades by size groups under $10,000,000 total assets. Selling and delivery expense, officers' salaries, and general administrative expense for selected industries.

Mountain States Lumber Dealers Association, 217 Colorado National Bank Building, Denver 2, Colo.

28. **Cost of Doing Business Survey.** Annual. $5. Operating ratios for association members, by size of yards and type of dealer.

National Appliance and Radio-TV Dealers Association, 1141 Merchandise Mart, Chicago 54, Ill.

29. **Cost of Doing Business Survey.** Annual. Free to members, priced to nonmembers. Operating ratios of appliance, radio, and TV dealers, by sales size and geographic location.

National Association of Building Owners and Managers, 134 South LaSalle Street, Chicago 3, Ill.

30. **Office Building Experience Exchange Report.** Annual. $10. Detailed analysis of office building rental-income and operating expenses, by cities and geographic regions. National averages by age, height and size of building, and city population.

National Association of Retail Clothiers and Furnishers, Munsey Building, Washington 4, D.C.

31. **Operating Experience of Men's Wear Stores.** Published annually in *Men's Wear Magazine.* Average ratios and range of common experience figures for men's wear stores, by sales volume and Federal Reserve District.

National Association of Retail Grocers, 360 North Michigan Avenue, Chicago 1, Ill.

32. **Operating Cost Comparisons.** Detailed profit-and-loss statements, including operating ratios for grocery stores of varying sizes.

National Automobile Dealers Association, 2000 K Street NW., Washington 6, D.C.

33. **Operating Averages for the Automobile Retailing Industry.** Quarterly. Operating expense and profit ratios for automobile dealers, by sales volume groupings. Sales and income data for automotive parts, customer labor, total service, and used cars.

National Congress of Petroleum Retailers, Inc., 325 Farwell Building, Detroit 26, Mich.

34. **Pilot Survey of Service Station Operating Data.** $1. Operating costs and ratios for a pilot group of service stations for 1953.

National Institute of Drycleaning, Silver Spring, Md.

35. **Cost Percentages for the Year.** Annual. Operating ratios for drycleaning establishments, by sales size and geographic location.

National Institute of Rug Cleaning, Inc., 7355 Wisconsin Avenue, Bethesda 14, Md.

36. **Rug Cleaners' Operating Cost Percentages.** Annual. Operating ratios of representative rug-cleaning establishments.

National Licensed Beverage Association, 420 Seventh Street, Racine, Wis.

37. **Special Report Analyzing Cost and Profit Factors in Tavern Operations.*** Published periodically. Typical overhead expenses and net profit of 100 taverns.

National Retail Farm Equipment Association, 2340 Hampton Avenue, St. Louis 10, Mo.

38. **Cost of Doing Business Study.** Annual. $2. Average operating costs and ratios, inventory values, and stock turnover rates, by sales size groupings; significant balance sheet ratios.

National Retail Furniture Association, 666 Lake Shore Drive, Chicago 11, Ill.

39. **Furniture Store Operating Experiences.** Annual. For members only. Operating results of furniture dealers, by sales volume and geographic location.

National Retail Hardware Association, 964 North Pennsylvania Street, Indianapolis 4, Ind.

40. **Manual for Management of Retail Hardware Stores.** Annual. $2.50. Operating ratios for hardware stores, by sales and city size.

National Retail Merchants Association, Controllers' Congress, 100 West 31st Street, New York 1, N.Y.

41. **Merchandising and Operating Results of Departmentized Stores.** Annual. $9.50 to members; $22.50 to nonmembers eligible for membership; $14.50 to nonmembers not eligible. Detailed operating results of departmentized stores. Average performance and middle-range results for 306 departments, by sales volume groupings. Separate sections for specialty and department stores.

National Sporting Goods Association, 716 Rush Street, Chicago 11, Ill.

42. **Cost of Doing Business Survey.** Annual. Free to members; priced to nonmembers. Operating costs and ratios for sporting goods dealers, by sales volume and geographic area.

National Stationery & Office Equipment Association, 740 Investment Building, Washington 5, D.C.

43. **Operating Results of Office Supply and Equipment Dealers.** Annual. Available to members only. Operating costs and ratios by sales volume. Expenses, wage costs, store and outside selling expense, and dealer printing costs.

National Tire Dealers and Retreaders Association, Inc., 1012 14th Street NW., Washington 5, D.C.

44. **Comparison of Operations Survey.** Available to members only. Detailed operating costs of independent tire dealers in different locations and types of communities.

Nebraska Lumber Merchants Association, 1026 Trust Building, Lincoln, Nebr.

45. **Cost of Doing Business Survey.*** Annual. Operating ratios for Nebraska lumber merchants, by sales size.

Northeastern Retail Lumbermens Association, 339 East Avenue, Rochester 4, N.Y.

46. **Survey of Cost of Doing Business of Retail Lumber and Building Material Dealers of the Northeastern States.** Annual. Available only to participating member dealers. Standard operating costs and ratios by type of ownership, annual sales volume, size of community served, and profit status, and other performance ratios.

Northwestern Lumbermens Association, 1013 Fourth Avenue South, Minneapolis, Minn.

47. **Cost of Doing Business Survey.** Annual. Operating costs and ratios for northwestern lumber merchants, by sales volume.

Ohio Association of Retail Lumber Dealers, Xenia, Ohio

48. **Survey of Operating Costs and Profits.** Annual. Available to interested lumbermen, trade associations and accountants. Composite operating results for Ohio retail lumber dealers, by annual sales volume.

Printing Industry of America, Inc., 5728 Connecticut Avenue NW., Washington 5, D.C.

49. **Ratios for Better Printing Management.** Annual. For members only. Balance sheets and operating statements for printing and lithographing firms, by size, process, and specialization.

Retail Jewelers of America, 551 Fifth Avenue, New York 17, N.Y.

50. **Retail Jewelry Store Survey: Operating Statistics.** Annual. $2. Sales volume, operating costs, profit margins, departmental sales, and inventory turnover according to store size. Most stores surveyed are of the cash type.

Retail Paint and Wallpaper Distributors of America, Inc., 34 North Brentwood Boulevard, St. Louis 5, Mo.

51. **Cost of Doing Business Survey.*** Annual. Operating margins, expenses, sales and service costs, gross and net profit, personnel-to-volume ratios, inventory turnover, and credit losses, by sales volume.

Shoe Service Institute of America, 222 West Adams Street, Chicago 6, Ill.

52. **Shop Operating Cost Study.** Published annually in *Shoe Service Magazine*. Operating ratios of shoe repair shops, by sales volume.

Southwestern Lumbermen's Association, 513 R. A. Long Building, Kansas City 6, Mo.

53. **Survey of Cost of Doing Business.** Conducted periodically. 1955 survey, $20. Independent dealers and line yard companies in Arkansas, Kansas, Missouri, and Oklahoma, by location, size of business, type of ownership, city size, and by profit status.

Super Market Institute, 500 North Dearborn Street, Chicago 10, Ill.

54. **The Super Market Industry Speaks.** Annual. Operating results, sales, margins, expenses, and net profit ratios by company size, compared with previous year.
55. **SMI Figure Exchange.** Quarterly. Available to members only. Operating and merchandising results of supermarket companies classified by location, number of stores, sales volume, departments, and companies with and without central warehousing.

Tennessee Building Material Association, 711 Broadway NE., Knoxville 17, Tenn.

56. **Cost of Doing Business Survey.** Annual. Operating results of Tennessee building materials dealers, by type of legal entity, sales volume, and city size.

Virginia Building Material Association, P.O. Box 7236, Richmond 21, Va.

57. **Operating Cost Survey.** Annual. Operating results of Virginia building material dealers, by sales volume; capital, inventory, and sales ratios.

Western Retail Lumbermens Association, 333 First West, Seattle 99, Wash.

58. **Survey of Operating Results.** Annual. Operating ratios, by sales size and geographic area.

Publishers

Ahrens Publishing Co., Inc., 71 Vanderbilt Avenue, New York 17, N.Y.

59. **Pin-Pointing Your Profits.** 1958. $2. Operating costs and ratios of 17 representative types of restaurants.

American Druggist, 250 West 55th Street, New York 19, N.Y.

60. **Analysis of Financial Statements of Drug Chains.** Published annually in *American Druggist.* Subscription $6 a year; 35¢ a copy. Individual and combined operating costs and ratios for 19 drug chains. Departmental sales per square foot published periodically in other issues of this magazine.

American Motel Magazine, 5 South Wabash Avenue, Chicago 3, Ill.

61. **Financial Status of Motels.** Published periodically. 35¢ a copy. Profit-and-loss statements for surveyed motels.

Drug Topics, 115 East 44th Street, New York 17, N.Y.

62. **What You Should Know About Ownership of A Drug Store.** Published in *Drug Topics,* April 15, 1957. 25¢ a copy. Number, distribution, and sales of drug stores in United States; gross margins, average earnings, turnover rates, employees' salaries, rent, and other store expenses; initial investment needed; and other data.

Drug Trade News, 115 East 44th Street, New York 17, N.Y.

63. **Annual Financial Survey.** Published annually in *Drug Trade News.* Subscription $4 a year; 35¢ a copy. Dollar sales, costs, and margins for chain drugstore companies, wholesalers, and drug trade suppliers, manufacturing costs or cost of goods sold, earnings before and after taxes, and other financial data.

Fairchild Publications, 7 East 12th Street, New York 3, N.Y.

64. **Annual Survey of Operating Results of Floor Coverings Retail Stores.** Published annually in *Home Furnishings Daily.* Study of floor coverings stores operating results, by geographic area and store size.
65. **Annual Survey of Operations of Family Shoe Stores.** Published annually in *Footwear News.* Operating results of shoe stores classified according to sales volume, city size, and geographic area.
66. **Fairchild's Financial Manual of Retail Stores.** Annual. $10. Financial data for department, specialty, home furnishings, variety, and drug stores; mail-order houses, shoe and food chains; assets, liabilities, net income, capital and surplus, and 10-year review of sales and profits.

Fueloil and Oil Heat, 2 West 45th Street, New York 36, N.Y.

67. **Fueloil Management Studies.** Published annually in the September and January issues of *Fueloil and Oil Heat.* Subscription $3 a year; $1 a copy. Statistical summary of the operations of oil burner retailers and fuel oil distributors. Operating margins, storage turnover, and service department data for fuel oil distributors.

Implement & Tractor, Graphic Arts Building, Kansas City 5, Mo.

68. **Surveys of Farm Equipment Dealers Repair Shop Operations.** Studies published from time to time in *Implement & Tractor* provide information on operating costs and ratios, prices, and other data for shop management. Subscription $3 a year; 25¢ a copy.

McGraw-Hill Book Company, Inc., 330 West 42d Street, New York 36, N.Y.

69. **Drug Store Operating Costs and Profits, 1956.** Burley, Fisher, & Cox. $8.50. Case study presentation of drugstore sales, margins, costs and profits, total and by departments and commodity groups.

Modern Beauty Shop, 201 North Wells Street, Chicago 6, Ill.

70. **Beauty Shop Operating Expenses.*** Published periodically. Operating expense ratios for beauty shop operators.

Playthings, 71 West 23d Street, New York 10, N.Y.

71. **Playthings' Survey of Toy Store Operating Results.** Published annually in *Playthings* magazine. Subscription $3 a year; 50¢ a copy. Monthly breakdown of sales; operating ratios for stores, by size, geographic location, and type of shopping district.

Printers' Ink, 205 East 42d Street, New York 17, N.Y.

72. **Printers' Ink Study of Agency Costs and Operations.** Published in *Printers' Ink Advertisers' Guide to Marketing.* $2.50 a copy (free to *Printers' Ink* subscribers). Operating results by size of business, number of clients, average number of employees, media, and other groupings.

Progressive Grocer, 161 Sixth Avenue, New York 13, N.Y.

73. **Facts in Grocery Distribution.** Annual. 25¢. Estimate of food sales by type of store, number of retail food stores by size and type, analysis of changes, competitive margins in leading grocery items, and other performance data.
74. **Foodtown Survey.** 75¢. Covers five supermarkets over a 13-week period, showing exact sales and margins for each of 323 product groups. Also shows, by product group, sales to total store sales, number of cases and units sold per week, and sales and margins per square foot of floor space.
75. **Valley Fair Meat Study.** Four parts, 25¢ each. Part I, price and margin guide for retail cuts and inventory breakdown into prepackaged retail units; part II, highest meat producers by number of packages sold, dollar sales, and dollar gross profit; part III, package, labor costs, production per man-hour, tonnage and sales, and rewraps; part IV, sales, margins, and profits of packers' brands delicatessen items compared with store-wrapped items.
76. **Super Valu Study.** $1.50. Comprehensive study of sales and margins of Super Valu stores in Minnesota. Data on sales and margins by product groups, unit sales, stock turnover, sales and margins per square foot and linear foot of space, examination of major perishables department, appraisal of frozen foods, and role of special displays.

Quality Grocer, 120 West 42d Street, New York 36, N.Y.

77. **The Quality Grocer Readers' Survey.*** Published annually in *The Quality Grocer*, a monthly publication of the Quality Bakers of America Cooperative, Inc. Contains average and range of operating ratios for grocers, by sales volume.

Super Market Merchandising, 67 West 44th Street, New York 36, N.Y.

78. **Annual Report on Operations.** Published in *Super Market Merchandising.* Survey, 25¢ a copy. Sales changes, margins, expenses, and net profits.
79. **The Thorofare Story.** Reprint from September 1956 issue of *Super Market Merchandising.* 50¢ a copy. Detailed operating data by department and commodity, also financial data.

Tourist Court Journal, Temple, Tex.

80. **Operating Averages.** Published annually in the July issue of *Tourist Court Journal.* $3 a year; $1 for July issue. Operating results by size of tourist courts and by breakdown of four general areas of the United States. General statistics on occupancy, owner's return, number of persons and rates per rental unit, rates per person, percentages of income and outgo.

Variety Store Merchandiser, 192 Lexington Avenue, New York 16, N.Y.

81. **Annual Census and Analysis of the Variety-Department Market.** Published in the April issue of *Variety Store Merchandiser*, 50¢ a copy. Stores, sales, percentage of market of major chains and subdivisions of the variety trade. Comparative financial summaries and analysis of financial activities.

Colleges and Universities

Brooklyn College of Pharmacy, 600 Lafayette Avenue, Brooklyn 16, N.Y.

82. **National Prescription Survey, 1954–55.** Analysis of prescription costing, pricing, gross margins, and fair-trade minimums and margins based on study of over 57,000 prescriptions from more than 400 drugstores.

Harvard University, Division of Research, Soldiers Field, Boston 63, Mass.

83. **Operating Results of Department and Specialty Stores.** Annual. $5. Operating ratios by sales volume groupings, yardsticks, production unit expense comparisons, and special analyses.
84. **Operating Results of Limited Price Variety Chains.** Annual. $2. Operating ratios by sales volume groupings, yardsticks, and special analyses.
85. **Operating Results of Food Chains.** Annual. In cooperation with the National Association of Food Chains. $2. Margins, expenses, and profits of food chains.

University of Michigan, Bureau of Business Research, Ann Arbor, Mich.

86. **Departmental and Merchandising Results in Small Department Stores.** Biannual. $2. Sales data, original markups, markdowns, gross margins, stock-sales ratios, total and by departments; expense and net profit averages for total store operations, and information on functional expenses and inventory.

University of Texas, Bureau of Business Research, Austin, Tex.

87. **Texas Retail Lumber Dealers Survey of Cost of Doing Business, 1956.*** Operating ratios and inventory turnover rates of Texas retail lumber dealers, based on statements of 240 independent dealers and 7 consolidated reports.

U.S. Government

The following publications, like many other U.S. Government publications, are available for reference in many large university and public libraries as well as at U.S. Department of Commerce field offices. Business men and women and research workers in business subjects are encouraged to use the libraries and other facilities of these field offices, where both current and out-of-print Department of Commerce items and other selected business publications are available for reference.

Where a price is shown, the publication may be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C., or through Department of Commerce field offices. Make check or money order payable to Superintendent of Documents.

U.S. Treasury Department, Internal Revenue Service

88. **Statistics of Income: Corporation Income Tax Returns.** Annual. $1.25 a copy. Operating statistics based on corporate income tax returns, grouped according to major and minor industrial divisions. Statistics include number of returns, total compiled receipts, net income or deficit, dividends paid in cash and assets other than own stock, total income tax, assets, liabilities, and income and expense data.
89. **Statistics of Income: Partnership Returns.** Published periodically. 45¢ a copy. Operating statistics based on partnership information returns. Statistics include receipts, assets, liabilities, and income and expense data for partnerships, grouped according to major industrial classifications.

Interstate Commerce Commission

90. Cost Study of Class I Motor Carriers of General Freight. Separate studies for Middle West, Southwest, Pacific and Rocky Mountain territories. Published periodically. Available on request from Interstate Commerce Commission, Bureau of Accounts, Cost Finding and Valuation. Studies of territorial motor costs showing unit costs, operating performance factors, and cost scales. Data include out-of-pocket terminal costs, line-haul costs, unit costs for pickup and delivery, costs per hundredweight-mile and per vehicle-mile, load factors, and other performance data.

WHOLESALE TRADES

Commercial Organizations

Dun & Bradstreet, Inc., Business Library, 99 Church Street, New York 8, N.Y.

91. 14 Important Ratios in 72 Lines of Business. See item 4.

92. Current Trends In Terms of Sales. See item 5.

Moody's Investors Service, 99 Church Street, New York 7, N.Y.

93. Moody's Industrials. See item 13.

Standard & Poor's Corp., 345 Hudson Street, New York 14, N.Y.

94. Standard & Poor's Corp. Descriptions. See item 15.

Trade Associations

American Institute of Supply Associations, 402 Albee Bldg., Washington, D.C.

95. Modern Management Methods. Available to members only. Includes a chapter on business trends which provides data on sales, inventories, expenses, profits, and break-even points for plumbing and heating wholesalers and distributors of pipe, fittings, and valves.

American Steel Warehouse Association, 540 Terminal Tower, Cleveland 13, Ohio

96. Company Operations and Operating Ratios. Annual. Available only to participating companies. Operating ratios for industrial metals distributors, by lines of business.

Associated Equipment Distributors, 30 East Cedar Street, Chicago 11, Ill.

97. AED's Survey on Cost of Doing Business. Annual. $7.50. National and regional income and expense, balance sheets, and financial and operating ratios for construction equipment distributors; 4-year trends in sales, costs of sales, operating expenses and profits.

Association of Independent Optical Wholesalers, 222 West Adams Street, Chicago 6, Ill.

98. Summary of Optical Wholesalers Operating Expenses. Annual. Available to participating members only. Operating ratios for independent wholesalers; detailed breakdown of operating expenses.

Automotive Electric Association, 16223 Meyers, Detroit 35, Mich.

99. Distributor Operating Ratios and Comparative Performance Records. Operating ratios for wholesalers of specialized original equipment units and parts for automobiles, trucks, tractors, and other motorized equipment, grouped according to annual sales volume.

Beauty and Barber Supply Institute, Inc., 19 West 44th Street, New York 36, N.Y.

100. Cost and Profit Report. Annual. Available to members only. Operating statistics for beauty and barber equipment and supplies wholesalers. Ratios for firms, by sales size; turnover, sales per salesman, and other information.

Central Supply Association, 221 North LaSalle Street, Chicago 1, Ill.

101. Plumbing and Heating Wholesalers' Quarterly Report of Operating Costs. Quarterly. $1 a quarter. Operating ratios for wholesalers of plumbing products, heating products, and/or distributors of pipe, fittings and valves, grouped according to sales volume and geographic area.

Laundry and Cleaners Allied Trades Association, 95 Liberty Street, New York 6, N.Y.

102. Survey of Distributors' Operations. Published periodically. Operating costs and ratios for distributors of laundry and drycleaning supplies.

Robert Morris Associates, Philadelphia National Bank Building, Philadelphia 7, Pa.

103. Statement Studies. See item 27.

Motor and Equipment Manufacturers Association, 250 West 57th Street, New York 19, N.Y.

104. M.E.M.A. Survey of Wholesalers' Financial Statements.* Annual. Composite figures of 410 automotive jobbers showing average dollar value of assets, liabilities, sales, gross profit, expenses and net profit for the past 5 years; important operating ratios.

Motor and Equipment Wholesalers Association, 309 West Jackson Boulevard, Chicago 6, Ill.

105. Cost of Doing Business in the Automotive Wholesale Industry. Annual. $10. Operating margins, expenses, and profits, by annual sales volume and geographic divisions; inventory turnover rates, machine shop operations, and other operation analyses.

National-American Wholesale Lumber Association, 41 East 42d Street, New York 17, N.Y.

106. Wholesale Cost Study. Annual. Available to survey participants, selected governmental agencies, members of the association, and educational institutions. Data on average volume and footage per wholesaler, total and detailed breakdown of distribution cost, by geographic area.

National Association of Electrical Distributors, 290 Madison Avenue, New York 17, N.Y.

107. Report on the Value Added by Distributors' Functional Services. Annual. For members only. Report sales (percent of each commodity to total sales); gross margin as a percent of sales, by commodities; expenses by functional groups of items, allocated to commodities with separate tabulation by classes of members (appliance, combination, apparatus and supply), and by geographic areas.

National Association of Food Chains, 1025 Connecticut Avenue NW., Washington 6, D.C.

108. Progress In Food Distribution. Statement to U.S. House of Representatives, May 8, 1957, includes data on tons per man-hour in food chain warehouses, gross margins, average hourly wage rates in various food chain occupations, and other subjects.

National Association of Tobacco Distributors, Inc., 200 Fifth Avenue, New York 10, N.Y.

109. Successful Methods of Wholesale Tobacco Distribution. $15. Chapter on finances contains financial and operating data of tobacco distributors.

National Beer Wholesalers' Association of America, 203 North Wabash Avenue, Chicago 1, Ill.

110. Operating Results for the Wholesale Beer Trade. Annual. Available to members and affiliated brewery and supply firms. Operating ratios of NBWA members, by sales volume; inventory turnover, sales per employee, personnel data, and comparisons to past operations.

National Candy Wholesalers Association, 1424 K Street NW., Washington 5, D.C.

111. Comparisons of Wholesaler Operations. Annual. Selected financial and operating ratios for confectionery and tobacco wholesalers, by median and upper and lower quartile.

National Commercial Refrigerator Sales Association, 1900 Arch Street, Philadelphia 3, Pa.

112. Statement of Expenses. Annual. Available to members only. Detailed operating ratios of commercial refrigerator distributors.

National Electronic Distributors Association, 343 South Dearborn Street, Chicago 4, Ill.

113. Characteristics of the Primary Parts Distributors. Annual. Available to members only. Number and size of distributors, total sales and sales per employee, lines handled, and operating ratios by sales size.

National Oil Jobbers Council, 1001 Connecticut Avenue NW., Washington 6, D.C.

114. Survey of Jobber Operating Costs and Profits. Published annually in *National Oil Jobber.* 50¢ a copy. Comparative operating statement by products; analysis of departmental expense, by geographical location and by gallons of gasoline and fuel oil sold.

National Paper Trade Association, Inc., 220 East 42d Street, New York 17, N.Y.

115. Paper Merchants Annual Survey. Operations of merchants, grouped by type of paper handled and by rate of profit earned.

National Standard Parts Association, 8 South Michigan Avenue, Chicago 3, Ill.

116. Comparative Performance Records and Leading Lines Survey for Wholesaler Executives. Annual. Available to members only. Composite financial and operating ratios for automotive wholesalers, by sales volume groupings.

National Wholesale Druggists Association, 60 East 42d Street, New York 17, N.Y.

117. Facts on Operations for Service Wholesale Druggists. Annual. Operating ratios of service wholesale druggists, including sales trends, stock turnover, and expenses and profits, by geographic area, size of business, and profit status.

Optical Wholesalers National Association, Chamber of Commerce Building, Columbus 15, Ohio

118. Annual Survey of Operating Income and Expense.* Annual. Operating ratios for optical wholesalers, by sales size and by amount of resales to total sales.

Plumbing and Heating Wholesalers of New England, Inc., 31 St. James Avenue, Boston 16, Mass.

119. Cost of Doing Business Survey.* Annual. Operating ratios (high, low, and average) for New England plumbing and heating wholesalers.

Scientific Apparatus Makers Association, 20 North Wacker Drive, Chicago 6, Ill.

120. Operating Ratio Report.* Conducted periodically. Detailed operating ratios, by sales volume, of distributors and manufacturer-distributors of scientific apparatus.

Shoe Service Institute of America, 222 West Adams Street, Chicago 6, Ill.

121. Finders' Cost and Profit Ratios. Annual. Published in *Shoe Service Wholesaler.* Operating ratios of shoe service wholesalers, by sales volume.

Southern Wholesalers Association, 1626 Fulton Bank Building, Atlanta 3, Ga.

122. Survey of Operating Expense. Annual. Available to members only. Operating ratios for southern wholesalers of plumbing and heating supplies.

Toy Wholesalers Association of America, 1609 Sherman Avenue, Evanston, Ill.

123. **Toy Distribution Monthly Bulletin.** Periodically, carries articles on current operating and financial data for toy wholesalers.

United Fresh Fruit and Vegetable Association, 777 14th Street NW., Washington 5, D.C.

124. **Comparative Report on Operating Costs and Profits of Service Wholesale Distributors.** Semiannual. Available to members only. Average operating ratios for independent and voluntary group distributors, by sales size.

United States Wholesale Grocers' Association, Inc., 1511 K Street NW., Washington 5, D.C.

125. **Survey of Wholesale Grocers' Profit and Loss Figures.** Annual. Available to association members. Operating results of wholesale grocers, by sales volume and geographic area groupings; also important balance sheet items and turnover rates.

National Wholesale Dry Goods Association, 40 Worth Street, New York 13, N.Y.

126. **Operating Expense Report.** Annual. Available to members only. Operating expense data, grouped according to sales volume. Median and interquartile range reported for all expense categories.

Wine and Spirits Wholesalers of America, Inc., 217 Security Building, St. Louis 2, Mo.

127. **Annual Operations Survey.** For members. Balance sheet and income statement ratios of wine and spirit wholesalers, by sales volume.

Publishers

Baking Industry, 105 West Adams Street, Chicago 3, Ill.

128. **Annual Survey Report.** Published annually in *Baking Industry.* Subscription $3 a year; 25¢ for current copies; 50¢ for back copies. Statistics on shop and sales employees, gross sales, gross profits, tonnage, number of routes, stale returns, ratio of advertising to gross sales and spending for equipment and expansion.

Cook Publications, 114 East 32d Street, New York 16, N.Y.

129. **Grocery Warehouse Operating Cost Report.** Published monthly by Operation, Incorporated, for its members. Shows tons per man-hour figures for each of the reporting warehouses.

Drug Trade News, 330 West 42d Street, New York 36, N.Y.

130. **Annual Financial Survey.** See item 63.

Industrial Distribution, 330 West 42d Street, New York 36, N.Y.

131. **Annual Survey of Distributor Operations.** Annual. In *Industrial Distribution.* Subscriptions $3 a year; 50¢ a copy. Sales, inventories, gross margin, turnover, accounts receivables, number of employees, sales per person, and other pertinent operating facts of industrial goods wholesalers, by regional and national breakdowns.

Jobber News & Electronic Wholesaling, 2775 South Moreland Boulevard, Cleveland 20, Ohio

132. **Financial Statements of Electronic Parts Wholesalers.** Annual. Assets, liabilities, net worth, sales, gross and net profits, and important operating ratios.

Restaurant Equipment Dealer, 71 Vanderbilt Avenue, New York 17, N.Y.

133. **Guideposts for the Industry.** Operating ratios for restaurant equipment and supply houses, by dealer types, based on survey of Midwest firms.

U.S. Government

See instructions regarding availability of U.S. Government publications, page 66.

U.S. Department of Commerce, Bureau of the Census

134. Census of Business, 1954. Volume III, Wholesale Trade—Summary Statistics and Public Warehouses: Sales, number of establishments, credit, receivables, bad-debt losses, commodity line sales, inventories, operating expenses. $6. Volume IV, Wholesale Trade—Area Statistics: Sales, number of establishments, inventories, total operating expenses, payroll, by States, counties, cities, and standard metropolitan areas. Available for reference only. See page 66.

135. Census of Business, 1948. Volume IV, Wholesale Trade—General Statistics and Commodity Line Sales Statistics: Sales, number of establishments; administrative, selling, shipping-delivery, warehouse and other expenses, and total operating expense ratios, by kind of business; also frequency distribution of operating expense ratios, by kind of business. $4.50. Volume V, Wholesale Trade—Area Statistics: Sales, number of establishments, operating expenses, payroll, by States, counties, cities, and standard metropolitan areas. $4.95.

U.S. Treasury Department, Internal Revenue Service

136. Statistics of Income: Corporation Income Tax Returns. See item 88.
137. Statistics of Income: Partnership Returns. See item 89.

CANADIAN STATISTICS

The Industry and Merchandising Division of Canada's Dominion Bureau of Statistics publishes annual or biennial reports providing financial and operating averages and ratios for major trades. Data are generally classified by store size, age of business, and by owned or rented status.

The individual trade reports in this series, listed below, are available from the Dominion Bureau of Statistics, Ottawa, Canada, at the prices indicated.

138. Volume III, Part I—Wholesale Statistics

A—Wholesale Trade, 25¢.
B—Operating Results of Food Wholesalers, 25¢.
C—Operating Results of Dry Goods, Piece Goods and Footwear Wholesalers, 25¢.
D—1 Operating Results of Automotive Parts and Accessories Wholesalers, 25¢.
2 Operating Results of Drug Wholesalers, 25¢.
3 Operating Results of Hardware Wholesalers, 25¢
4 Operating Results of Plumbing and Heating Supply Wholesalers, 25¢.
5 Operating Results of Household Appliance and Electrical Supply Wholesalers, 25¢.

139. Volume III, Part II—Retail Statistics

E—General Review (Discontinued).
F—Retail Trade, 50¢.
G—Retail Chain Stores, 50¢.
H—Operating Results of Food Store Chains, 25¢.
I—Operating Results of Clothing Store Chains, 25¢.
J—1 Operating Results of Variety Store Chains, 25¢.
2 Operating Results of Drug Store Chains, 25¢
3 Operating Results of Furniture Store Chains, 25¢
K—Operating Results of Independent Food Stores, 25¢.
L—Operating Results of Independent Clothing Stores, 25¢.
M—Operating Results of Independent Hardware, Furniture, Appliance, Radio and Television Stores, 25¢.
N—Operating Results of Filling Stations and Garages, 25¢.

O—1 Operating Results of Independent General Stores, 25¢.
2 Operating Results of Independent Restaurants, 25¢.
3 Operating Results of Independent Fuel Dealers, 25¢.
4 Operating Results of Independent Drug Stores, 25¢.
5 Operating Results of Independent Jewelry Stores, 25¢.
6 Operating Results of Independent Tobacco Stores, 25¢.

P—Retail Credit, 25¢.

140. Volume III, Part III—Services and Special Fields

Q—Laundries, Cleaners and Dryers, 25¢.
R—Motion Picture Theatres, Exhibitors and Distributors, 25¢.
S—Hotels, 25¢.
T—Sales Financing, 25¢.
U—Farm Implement and Equipment Sales, 25¢.
V—New Motor Vehicle Sales and Motor Vehicle Financing, 25¢.
W—Advertising Agencies (Memorandum), 10¢.
X—Motion Picture Production (Memorandum), 10c.

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U.S. GOVERNMENT PRINTING OFFICE: 1959